



International Journal of Technological Learning, Innovation and Development

ISSN online: 1753-1950 - ISSN print: 1753-1942

<https://www.inderscience.com/ijtlid>

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Piyush Gupta, Vivek Mishra, Sudhir Rana

DOI: [10.1504/IJTLID.2024.10062104](https://doi.org/10.1504/IJTLID.2024.10062104)

Article History:

Received:	21 November 2023
Last revised:	18 December 2023
Accepted:	19 December 2023
Published online:	20 March 2024

An exploratory study of the impact of perceived fake news on brand attachment: mediating role of brand trust and consumer-brand identification

Piyush Gupta* and Vivek Mishra

Birla Global University,
Idco Plot No. 2, Institutional Area, Gothapatna,
Bhubaneswar –751029, Odisha, India
Email: piyushgupta0505@gmail.com
Email: viv.mishra82@gmail.com
*Corresponding author

Sudhir Rana

Gulf Medical University,
P.O. Box 4184 – Ajman, United Arab Emirates
Email: rana.sudheer21@gmail.com

Abstract: Fake news has created a nightmare for companies and brands. Fake news not only affects a brand's reputation but also consumer behaviour. However, no scale is available to measure perceived fake news (PFN) in literature. Brand attachment (BA) is one of the important constructs in predicting consumer behaviour. This study aims to explore how PFN influences BA. The mediating role of consumer-brand identification (CBI) and brand trust (BT) have been studied in the relationship between PFN and BA. The results suggest that PFN has an impact on CBI and BA. However, it does not affect BT. Also, CBI partially mediates the relationship between PFN and BA while BT shows no mediation. This study contributes a three-item scale to measure perceived fake news. Brands can use brand attachment and brand trust as the mitigating strategy to reduce the harm of fake news.

Keywords: fake news; brand attachment; brand trust; consumer-brand identification; CBI; brand; social media.

Reference to this paper should be made as follows: Gupta, P., Mishra, V. and Rana, S. (2024) 'An exploratory study of the impact of perceived fake news on brand attachment: mediating role of brand trust and consumer-brand identification', *Int. J. Technological Learning, Innovation and Development*, Vol. 15, No. 3, pp.329–346.

Biographical notes: Piyush Gupta is a Faculty in the area of Operations Management. He has done his PhD from Indian Institute of Management (IIM) Ranchi and post-graduation in MTech from Indian Institute of Technology (IIT) Dhanbad in Industrial Engineering and Management. He is having more than three years of teaching and research experience. He has worked in FIIB, New Delhi. He has published many high-quality papers in top journals such as *Information Technology & People*, *International Journal of Retail & Distribution Management*, *International Journal of Productivity & Performance Management*, to name a few. His area of research interests falls in

service operations, behavioural operations research, process analysis and improvement. He has involved in doing interdisciplinary research as well. He is also serving as an associate editor in emerald publishing journal.

Vivek Mishra is a Faculty in the area of Marketing. Having completed PhD from KIIT School of Management, KIIT D/U Bhubaneswar, he has more than six years of teaching and research experience coupled with over nine years of industry exposure, in sales and business development. He has published impactful research papers in journals of national and international repute. His area of research interests falls in brand management and Generation Z consumer behaviour research.

Sudhir Rana believes in driving and motivating academics and research such a way that, it can be best utilised in an enthusiastic and dynamic environment to foster versatile personalities. He is part of the Marketing Area Faculty. His teaching and research interests include international marketing, consumer behaviour, business development sales and negotiation, internationalisation and customer relationship management. He received his MBA and PhD with MHRD Scholarship from Government of India and Post-Doctorate (June 2018 to June 2020) from Putra Business School, Malaysia. His research profile is followed by publications into ABDC/ABS/Scopus/Web of Sciences Ranked and indexed journals published by Emerald, Inderscience, Sage, and Neilson Journal Publishing etc.

1 Introduction

It is widespread to see the influence of fake news about a brand or a company, often with the intention of harming the brand's reputation. The impact of fake information, rumours or news is mostly negative for a brand (Mills and Robson, 2020). Some fake news instances such as Steve Jobs's heart attack news triggered a 10% loss in stocks in 10 minutes in 2008 (Hargreaves, 2008) and Donald Trump's tweet triggered losses for Boeing and Toyota of USD 1 billion and USD 1.2 billion respectively within moments of the post (Revesz, 2017). Recently, the use of social media has elevated the spread of fake news for a brand. Fake news stories about a brand can harm its reputation, even if the stories are later corrected and this effect was more pronounced when the stories were consistent with pre-existing negative attitudes towards the brand (Mills et al., 2019). Negative rumours about a brand can spread quickly and widely on social media (Marra et al., 2017), particularly when they tap into pre-existing concerns or emotions among consumers and once negative rumours about a brand have spread, it can be difficult to counteract them, even with accurate information (Di Domenico et al., 2021). Brand fake news can be prevented through effective crisis management: Companies can lessen the impact of brand fake news by responding quickly and transparently to negative rumours, building strong relationships with consumers based on trust and transparency, and developing effective crisis management strategies (Ladeira et al., 2022). Directionally, fake news risk assessment is inevitable for businesses so that its impact can be mitigated, by monitoring social media conversations, responding quickly to false information, and building strong relationships with consumers based on trust and transparency.

Fake news can be understood as deliberately fabricated or misleading information, often spread through social media and other online platforms. Fake information is

designed to deceive readers and manipulate public opinion for political, financial, or other gain. Fake news can cause harm by spreading false information, promoting hate and intolerance, and undermining trust in legitimate sources of news and information. It is important for individuals to evaluate the sources and content of news they consume carefully and to be vigilant against spreading misinformation. In other words, perceived fake news (PFN) is news that people believe to be false, even if it is true, or that people believe to be true, even if it is false.

There is limited research specifically on how fake news affects brand attachment (BA), but some studies have investigated the potential impact on brand trust (BT). Exposure to fake news stories about a brand can reduce consumers' trust in the brand, which in turn can lead to decreased BA (Mishra and Samu, 2021). Negative rumours about a brand can damage consumers' emotional attachment to the brand, which can lead to decreased BA, loyalty and willingness of consumers to pay a price premium (Gupta et al., 2022). Dwivedi et al. (2018) suggest that as a mitigation strategy, attachment towards a brand can reduce the impact of fake news. Further, consumers who have a strong attachment to a brand are less likely to be influenced by negative rumours or fake news stories about the brand and BA can act as a buffer against negative information, as consumers are more likely to interpret such information in a way that is consistent with their pre-existing beliefs and attitudes towards the brand. Many studies suggest that fake news and negative rumours can hurt BA and consumer behaviour. Japutra et al. (2014) highlight the importance of BA and its role in predicting consumer behaviour. Further, the authors suggested the antecedents and outcomes of BA and studied the role of BT as an antecedent. However, there is a gap in the literature which has studied the role of BT and consumer-brand identification (CBI) in the relationship between PFN and BA. To address this gap, this study attempts to address the following research questions:

RQ1 How PFN can be conceptualised as related to brand?

RQ2 What is the impact of PFN on BT, CBI and BA?

RQ3 What is the impact of BT and CBI on the BA?

RQ4 Does BT and CBI as a mediator in the relationship between PFN and BA?

BA can mitigate the impact of negative information, highlighting the importance of building strong relationships with consumers based on trust and emotional connection. Further, the next section highlights the background theories and is followed by hypothesis development. Section 4 covers the methodology and results followed by Section 5 on discussion and implications. The last section contains the conclusion of the study with limitations and future scope of research work.

2 Theoretical background and hypothesis development

2.1 Background theory

The conceptual underpinnings of two theories, inoculation theory and uses and gratification theory, support this study. The inoculation theory is based on inoculation messages with the basic concept of preventing persuasion of the audience's pre-existing views, attitudes, and opinions (Compton et al., 2016; McGuire, 1964). The main premise

of inoculation theory is to improve individuals; existing knowledge or abilities. According to research, the spread of disinformation on social media is fuelled not only by individuals; inability to detect it, but also by their failure to consider the accuracy of the content before deciding what they should share online (Martel et al., 2020). According to research, in the case of fake news, providing individuals with the skills and knowledge they need to critically analyse it will allow them to limit its detrimental effects (Jeong et al. 2012). As a result, this hypothesis is important and applicable in the context of fake news distribution online, because it implies that as a result of their preparation, people are more likely to examine information before sharing it. This can help to mitigate the harmful impact of fake news on brands.

The theory of uses and gratification is based on the idea of the numerous sorts of gratification that users seek from a media product, which relates to the various types of material promoted through physical or digital channels (Katz et al., 1974). According to the notion, users may seek gratification from a media product in the form of time pass, enjoyment, entertainment, socialisation chances, and so on. As a result, the theory is an attempt to explain why viewers might actively choose to watch, consume, or interact with a media product (Talwar et al., 2020). The uses and pleasure theory sheds light on what motivates people to spread fake news. As a result, this study considers the uses and gratification theory to be important and necessary for understanding the underlying causes of disinformation dissemination (Dafonte-Gómez, 2018).

2.2 *Perceived fake news*

Fake news is online disinformation that has been created and spread to give people the appearance that it is accurate and dependable (Talwar et al., 2019). PFN refers to how individuals interpret and understand information that is intentionally misleading, inaccurate, or fabricated (Pennycook and Rand, 2021). Fake news literature is mostly concentrated towards the fake news detection and fake news sharing behaviour by individuals (Apuke and Omar, 2021; Di Domenico et al., 2021; Obadă and Dabija, 2022; Pennycook and Rand, 2021; Reis et al., 2019; Sahoo and Gupta, 2021; Zhang and Ghorbani, 2020; Zhou et al., 2020). Pennycook and Rand (2021) have studied the psychology behind fake news and suggested a few points such as:

- 1 recent data disproves the widely accepted theory that people believe ‘fake news’ because of partisanship and politically motivated reasoning
- 2 poor truth detection results from a variety of factors, including insufficiently sound reasoning, a lack of the necessary knowledge, reliance on source heuristics and familiarity
- 3 inattention is the primary factor causing this, not the intentional propagation of misinformation.

Egelhofer and Lecheler (2019) claimed that fake news is primarily a two-faceted phenomenon of public communication:

- 1 a genre that defines the deliberate manufacture of false material by pseudo-journalists
- 2 a label that reflects the political manipulation of the word to harm news organisations.

Many authors have attempted to study fake news in the context of brand management and suggested the negative impact of fake news on brands sustainability (Borges-Tiago et al., 2020; Di Domenico and Visentin, 2020; Flostrand et al., 2020; Mills and Robson, 2020; Mishra and Samu, 2021; Peterson, 2020; Singh et al., 2023). Many researchers have studied the role of fake news in contexts of brand-related factors such as BT, brand value, brand strength, brand experience, and brand credibility (Bezbaruah et al., 2022; Fârte and Obadă, 2021; Kumar et al., 2021a; Mills and Robson, 2020; Mishra and Samu, 2021; Sharif et al., 2022).

2.3 Consumer-brand identification

As far as brand-related fake news is concerned, one of the most prominent factors guiding the way individuals respond to the same is the extent to which they can relate/identify with the brand in question. The outcomes of which can be expressed in terms of loyalty towards a brand, attachment towards a brand or common values (Sharif et al., 2022). Hence, CBI can be described as “the degree to which users view themselves as sharing the same significantly and self-definitional characteristics with a specific brand” (Lam et al., 2013). According to a related study, CBI is significantly impacted by the level of engagement a consumer has with a brand or product; in other words, in the case of product categories having high involvement levels, consumers can identify themselves with the brand easily (Stokburger-Sauer et al., 2012).

Related research also suggests that CBI is strongly influenced by the extent to which a consumer is involved with a brand/product, in other words, “consumers are more likely to feel high levels of brand identification with high-involvement product categories” (Stokburger-Sauer et al., 2012). In the context of fake news, disinformation propagated by the same has higher chances of being taken based on its face value depending on the extent to which a consumer can identify himself/herself with the brand, i.e., the more an individual consumer can identify with a brand, he/she will be less likely to accept fake news about the brand (Einwiller and Kamins, 2008). Research has also factored CBI and the severity of the brand-crisis severity, and has proposed a plethora of strategies to tackle brand-related fake news (Johar, 2022).

2.4 Brand trust

BT is referred to as the faith a consumer has in the brand and it shows the relationship between the consumer and the brand (Dam, 2020). Trust is an important factor in choosing a brand as it shows the confidence of the brand to deliver the value it promised (Dam, 2020). BT measures how well a brand meets a customer’s requirements consistently and responsibly (Kwan Soo Shin et al., 2019). BT is an important construct in the study of brand management which impacts many other brand-related variables. Many studies have reported the antecedent and outcome nature of BT in the case of other variables, contexts such as B2B and services (Akoglu and Özbek, 2022; Atulkar, 2020; Dam, 2020; Gupta et al., 2021a, 2021b; Kim and Chao, 2019; Kwan Soo Shin et al., 2019). As a result, trusting a brand automatically suggests a high chance or anticipation that the brand will result in positive outcomes for the consumer. Much research has been conducted on the role of trust in the online environment (Laroche et al., 2012). By reducing information complexity, trust works as a mechanism for minimising the perceived risk of a bad outcome of a contact (Mayer et al., 1995).

2.5 *Brand attachment*

BA is referred to as the attachment a consumer feels with a brand and it shows the relationship between the consumer and the brand (Dam, 2020). BA is an important criterion which explains a customer's long-term association with a brand (Arya et al., 2019). BA is considered a measure of how well a brand meets a customer's requirements with emotional, cognitive and affective bonding (Arya et al., 2019). BA is an important construct in the study of brand management which has an impact on many other brand-related variables in many contexts such as luxury brands, mobile banking, etc. (Rajaobelina et al., 2021; Shetty and Fitzsimmons, 2022). Many authors have reported the antecedent and outcome nature of the BA to other constructs (Huaman-Ramirez and Merunka, 2019; Hwang et al., 2021; Rajaobelina et al., 2021; Shetty and Fitzsimmons, 2022).

2.6 *Hypothesis development*

2.6.1 *Impact of PFN on CBI, BT and BA*

In a conceptual paper, Mills and Robson (2020) discussed the potential harm of PFN on brands and suggested customer-brand identification as a strategy to reduce the impact of fake news. Further, the author has suggested that PFN has a positive influence on CBI. Mim et al. (2022) argued that credible sources act as a stimulus which has an impact on CBI. Similarly, fake news acts as a stimulus for CBI and impacts CBI.

H1 PFN impacts the CBI of the personnel towards the brand.

Chen and Cheng (2020) have highlighted the response of the consumer to brand-related fake news and the influence of PFN studied on trust towards a brand. Further, the role of self-efficacy and persuasive knowledge have also been studied in fake news impact on BT. BT plays an important role in countering the fake news risks in the natural food products context and has found a negative association between fake news and BT (Bezbaruah et al., 2022). Fârte and Obadă (2021) have studied that consumers' exposure to negative fake news has an impact on BT for international food and soft drinks brands. Sharif et al. (2022) have studied the impact of the perception of fake news on branding concepts such as BT, brand credibility (Kaurav and Gupta, 2022) and brand experience. Mim et al. (2022) argued that credible sources act as a stimulus similar to fake news which has an impact on BT. Similarly, fake news acts as a stimulus for BT and impacts BT. Chan-Olmsted and Qin (2021) have studied the impact of fake news sponsored by brands on consumer BT.

H2 PFN impacts the BT.

Mim et al. (2022) argued that credible sources act as a stimulus similar to fake news which has an impact on BA. Similarly, fake news acts as a stimulus for BA and impacts the BA.

H3 PFN impacts the BA.

2.6.2 Impact of CBI and BT on BA

Several studies in the past have found BA to be strongly predicted by CBI (Chang et al., 2020; Proksch et al., 2013; Wolter et al., 2016). In a literature review study conducted by Shimul (2022), the author reviewed the existing literature on BA and suggested a future research agenda. Shimul (2022) advocates that CBI drives the BA. To the best of our knowledge, no study has taken the impact of consumer brand identification in the case of PFN. In online brand communities, the study finds that BA has a partial mediating effect on the relationship between brand identification and brand community commitment which shows the impact of brand identification on BA (Zhou et al., 2012).

H4 CBI impacts BA.

In multichannel retailing, high BT has a high retail BA (Frasquet et al., 2017). Many authors have found the impact of BT on BA in different contexts of study (Chinomona and Maziriri, 2017; Huaman-Ramirez and Merunka, 2019; Tsiotsou, 2010). In an automotive brand, Barijan et al. (2021) have studied the brand-related factors and found the influence of BT on BA.

H5 BT impacts the BA.

2.6.3 Mediating effect of CBI and BT on the relationship between PFN and BA

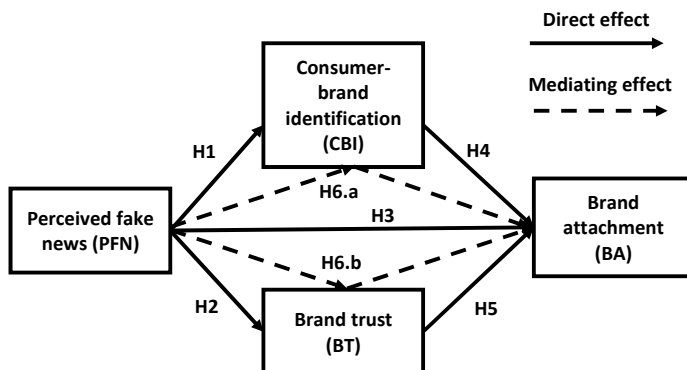
In the fake news era, the rumours or false information about a brand act as a stimulus for the organism such as BT and CBI to further response such as BA (Mim et al., 2022). Many studies have taken BT and consumer-brand identities as a mediator in the context of a brand such as coffee shops (Ibrahim et al., 2021).

H6a-b The effects of PFN on BA are partially or fully mediated by:

- a CBI
- b BT.

Based on the above hypothesis, a conceptual research model has been proposed for the testing as shown in Figure 1.

Figure 1 Research model



3 Method

3.1 Data collection and sample

The sample data has been collected through the respondents who have used social media in their daily lives. The data has been collected through working professionals and students. The survey has been floated through offline and online modes of data collection. Google form was used to make the questionnaire and distributed through emails, LinkedIn and WhatsApp to collect the data in online mode. The pen and paper method was used to collect data in offline mode through students in a university. The sample is collected through the convenience method of sampling from 349 respondents. The survey has been collected through a questionnaire which is developed in English. The descriptive statistics show that 53% of respondents are female and the rest are male. The respondents' age groups are given as follows: 26–35 (40%), 18–25 (40%), 35–44 (13%) and more than 45 (7%). Education qualification shows that the majority of the respondents, i.e., 68% have a post-graduation degree, 15% have a PhD degree and the rest have an undergraduate degree. Respondent's occupation shows that 55% are working professionals, 40% of respondents are students and the rest are non-working. The respondents are asked to recall their fake news experience with their favourite brand and fill out the questionnaire.

3.2 Measures

The survey was developed with the help of questionnaire items which have been taken from the literature. The items were adapted and modified as per the study requirements. The measurement instrument for PFN has been developed from an exploratory study based on semi-structured interviews as shown in Table 1. To measure CBI, a three-item scale was adopted from the previous work (Tuškej et al., 2013). BT is measured from the six-item scale used in literature (Delgado-Ballester and Munuera-Alemá, 2001). Finally, to measure BA, a four-item scale was used (Rabbanee et al., 2020). Table 2 shows the questionnaire items used in the study mentioning the source of scales.

Table 1 Semi-structured interview findings

<i>Construct</i>	<i>Sample excerpts from semi-structured interviews</i>
Perceived fake news (PFN)	<p>"I have encountered fake news many times. Recently, I wanted to purchase a car and there was a rumour of a new model of a particular brand on social media. This information was very appealing as the new model had a lot of good features. Later, I came to know that this information was wrong to deceive people" [P2]</p> <p>".....we can never be safe from fake news. It causes a lot of bad decision making related to purchasing from a brand. Sometimes, it is very irritating and causes anxiety for a brand. Last time, I encountered this with a food brand. There was an ad related to heavy discount but when I checked from the food app, there was no such things" [P4]</p> <p>"It looks like many a times; the information was created to mislead customers and it is not created by the brand" [P5]</p> <p>"Brands should be careful to deal with the false information shared by some people as it looks like so real which is too easy to deceive someone" [P9]</p>

Table 2 Scale item adaptations

Construct items	References
<i>Perceived fake news (PFN)</i>	
PFN1: It appears false information that closely resembles news media content not as per brand X intent	New items
PFN2: It seems that incorrect information about the brand X is being distributed deliberately to mislead people	
PFN3: It appears the wrong motivation of the producer to generate deceptive information for the brand X	
<i>Consumer-brand identification (CBI)</i>	
CBI1: I believe that my traits and this brand's identity are extremely comparable.	Tuškej et al. (2013)
CBI2: I share a lot of similarities with other customers of brand X	
CBI3: I believe that this brand's values and mine are extremely comparable	
<i>Brand trust (BT)</i>	
BT1: Brand X provides me with a product with a consistent degree of quality	Delgado-Ballester and Munuera-Alemá (2001)
BT2: I can fix any issue I might have with the product thanks to brand X	
BT3: Brand X provides me with new products that I may require	
BT4: Brand X cares about my happiness	
BT5: Brand X appreciates me as a customer of its goods.	
BT6: Brand X provides me with tips and ideas for utilising their product	
<i>Brand attachment (BA)</i>	
BA1: My emotions towards the brand X are best described as affection	Rabbanee et al., (2020)
BA2: My emotions towards the brand X are best described as love	
BA3: My emotions towards the brand X are best described as connection	
BA4: My emotions towards the brand X are best described as passion	

4 Results

4.1 Exploratory factor analysis

Keeping in mind the exploratory nature of the study, the first exploratory factor analysis (EFA) was performed (Isaac et al., 2018; Muduli and Barve, 2013, 2015). Four factors emerged from the data with a total explained variance of 61%. Table 3 shows the results of EFA which consists of factor loadings above 0.40. scale reliability was checked using the Cronbach alpha (α) which was above the cut-off values of 0.70, showing a good internal consistency of scale. The common method bias was checked using Harmon's one-factor test which suggested that if the variance explained by a single factor is less than 50% then the study is less prone to common method bias (Gupta et al., 2020).

Table 3 EFA results

	<i>Component</i>			
	<i>BT</i>	<i>BA</i>	<i>PFN</i>	<i>CBI</i>
Cronbach α	0.821	0.832	0.739	0.753*
Eigenvalue	4.388	2.173	1.793	1.416
Total variance explained (<i>Explained variance</i>)	61.06% (27.42%)	(13.58)	(11.20)	(8.85%)
BT1	0.738			
BT2	0.747			
BT3	0.761			
BT4	0.699			
BT5	0.718			
BT6	0.592			
BA1		0.768		
BA2		0.785		
BA3		0.791		
BA4		0.819		
PFN1			0.831	
PFN2			0.682	
PFN3			0.862	
CBI1				0.512
CBI2				0.858
CBI3				0.859

4.2 *Confirmatory factor analysis*

A confirmatory factor analysis (CFA) test was led to check the measurement model. A few items such as CBI1, BT4, BT5 and BT6 were deleted to get the acceptable validities, reliability and model fit which is shown in Table 4 and Table 5. The composite reliability values for each construct are above 0.700 which shows a good consistency of scale items. The AVE values are greater than the prescribed value of 0.500 which shows a good convergent validity (Kumar et al., 2021b). The square root of AVE (which is shown in the diagonal elements of Table 4 in italics) is greater than the inter-correlation among the constructs, which signifies a good divergent validity. The model fit values for the CFA model were above the prescribed cut-off values (Bihari et al., 2023; Muduli et al., 2020)

Table 4 Validity and reliability test

	<i>CR</i>	<i>AVE</i>	<i>MSV</i>	<i>CBI</i>	<i>BA</i>	<i>BT</i>	<i>PFN</i>
CBI	0.783	0.651	0.059	0.807			
BA	0.833	0.555	0.160	0.204	0.745		
BT	0.789	0.556	0.160	0.049	0.400	0.746	
PFN	0.772	0.543	0.059	0.242	0.208	0.095	0.737

Note: Diagonal values (italics) show the square root of the AVE.

Table 5 Model fit test

<i>Model goodness of fit indices</i>	<i>Final measurement model</i>	<i>Threshold values</i>	<i>References</i>
χ^2/df	1.317	< 3	Gupta et al. (2020)
RMSEA	0.030	< 0.08	
GFI	0.969	> 0.90	
AGFI	0.950	> 0.80	
NFI	0.956	> 0.90	
CFI	0.989	> 0.90	

5 Discussion

Table 6 shows the results of hypothesis testing. The direct effect of PFN on CBI, reflects the hypothesis H1 is supported ($\beta = 0.200$, $p < 0.05$). Less brand identification means that consumers are more inclined to accept false information at face value which is aligned with the current findings (Ahluwalia et al., 2000). The direct effect of PFN on BT, reflects the hypothesis that H2 is not supported ($\beta = 0.073$, $p > 0.05$). The results are in line with the findings of Chan-Olmsted and Qin (2021) which indicated that there was no substantial change in BT across situations of fake and true news. The results of the study indicate that the consumption of fake news is a complicated behaviour that may not directly result in poor brand outcomes such as BT (Chan-Olmsted and Qin, 2021). The direct effect of PFN on BA, reflects the hypothesis H3 is supported ($\beta = 0.098$, $p < 0.05$). As there is no study which has studied this relationship but in a similar study, Mim et al. (2022) argued that credible sources act as a stimulus similar to fake news which has an impact on BA. Similarly, fake news acts as a stimulus for BA and impacts the BA. Thus, the results support the findings of our study. The direct effect of CBI on BA, reflects the hypothesis H4 is supported ($\beta = 0.136$, $p < 0.05$). Thus, these findings are in alignment and contradictions with studies in the past (Chang et al., 2020; Proksch et al., 2013; Shimul, 2022; Wolter et al., 2016; Zhou et al., 2012). The direct effect of BT on BA, reflects the hypothesis that H5 is supported ($\beta = 0.366$, $p < 0.000$). Many studies support the impact of BT on BA in many different contexts (Barijan et al., 2021; Chinomona and Maziriri, 2017; Frasquet et al., 2017; Huaman-Ramirez and Merunka, 2019; Tsiotsou, 2010).

Table 6 Hypotheses testing (n = 345)

<i>Independent variable → Dependent variable</i>	<i>Beta</i>	<i>Sig</i>	<i>Findings</i>
PFN → CBI	0.200	0.003	H1 accepted
PFN → BT	0.073	0.140 (ns)	H2 Not accepted
PFN → BA	0.098	0.033	H3 accepted
CBI → BA	0.136	0.011	H4 accepted
BT → BA	0.366	0.000	H5 accepted

Table 7 shows the results of the mediation analysis which tries to find out the mediating effect of CBI and BT on the relationship between PFN and BA. The results signify that hypothesis H6a, i.e., the mediating effect of CBI suggest a partial mediation while hypothesis H6b, i.e., the mediating effect of BT suggest no mediation. Previous studies have not attempted to study the mediating role of BT and CBI on the relationship between PFN on BA. But in a similar study conducted by authors, these findings are supported (Ibrahim et al., 2021; Mim et al., 2022).

Table 7 Analysis of mediating effect

<i>Path</i>	<i>Direct effect</i>	<i>Indirect effect</i>	<i>Results</i>
PFN CBI BA	0.121*** (0.026)	0.029*** (0.015)	Partial mediation
PFN BT BA	0.123*** (0.014)	0.026 (ns) (0.261)	No mediation

Note: Significance level at $p \leq 0.05$; ns – ‘not significant’.

6 Theoretical and managerial implications

6.1 Theoretical implications

This paper studies the influence of PFN related to a brand on the BA of consumers. This paper provides a theoretical model to see the impact of PFN on BT, CBI and BA. This paper also argues the mediating role of BT and CBI on the impact of PFN on BA. This is among the few studies which have taken the PFN as a latent variable to study the impact on brand-related constructs such as BT, consumer self-identification and BA. This paper conceptualises PFN and based on semi-structured interviews, proposes a three-item scale to measure PFN. This is the first study to see the impact of PFN as a latent variable on brand-related constructs such as CBI, BT and BA. In the current time, the spread of fake news using social media platforms is very common, and mitigation strategies are required to deal with such issues. This is among the few studies which have suggested mitigation solutions based on the findings of the study. Further, PFN is an important construct related to the brand. This provides a preventive strategy to reduce the impact of PFN.

6.2 Managerial implications

The impact of fake news on BA can be significant and detrimental. Managers should understand the customer psychology related to BA. Once a customer receives news related to a brand, he/she follows and values brand-related news which impacts their trust in the brand and also feels associated towards the brand in terms of consumer brand identification which is likely to result in the form of BA. In situations where consumers come across brand-related fake news, it can damage their trust in the brand and erode their attachment to it and may also decrease trust in the brand in question. Trust is a critical factor in building BA, and without it, consumers may be less likely to continue to support the brand. Fake news can create negative attitudes toward a brand. This can be particularly damaging if the fake news is about a controversial issue or if it portrays the brand in a negative light. BA is closely tied to brand loyalty. When consumers lose trust in a brand or develop negative attitudes toward it, they may be less likely to remain loyal to the brand over time. Fake news can damage a brand's reputation, which can have

long-term consequences. If consumers begin to associate the brand with negative information or misinformation, it may be challenging to restore the brand's reputation. Ultimately, the impact of fake news on BA can result in decreased sales. If consumers are less likely to trust, support, and remain loyal to a brand, it may result in decreased sales and revenue over time. If a brand is faced with a crisis, PFN can make it more challenging to manage the situation effectively. The brand may struggle to control the narrative and convince consumers that they are handling the situation appropriately. PFN can also hurt employee morale. Employees may feel demotivated and disengaged if they believe that their employer's brand is being unfairly attacked or misrepresented. PFN can also have legal implications, particularly if the news is defamatory or damaging to the brand's reputation. The brand may need to take legal action to protect its reputation and mitigate the impact of the false news. Brands need to be aware of the potential impact of fake news on BA and take steps to combat misinformation. This can include investing in reputation management, developing a strong social media presence, and being transparent and open with customers. BA is one of the strategies to reduce the impact of the intentional/unintentional spread of fake news regarding the brand. Managers should communicate the values of the brand through trust and self-identification of customers to the brand. If a customer relates to the brand, he/she evaluates the fake news and identifies the potential harmful intentions behind the spread of fake news related to the brand.

7 Conclusions, limitations and future research directions

PFN and its implications for a brand can be significant, even if the news is untrue. The perception of fake news can damage the brand's reputation and erode consumer trust, leading to negative consequences for the brand. The consequences of the PFN results in damage to brand reputation, decreased sales, difficulties in crisis management, negative impact on employee morale and legal implications. Brands need to be proactive in managing their reputation and addressing PFN. This can include engaging with consumers on social media, issuing statements to correct false information, and being transparent about the brand's actions and intentions. By taking these steps, brands can help mitigate the negative impacts of PFN and maintain consumer trust and loyalty. The study encounters some limitations as the current sample has been taken from Asian countries, particularly India, which may limit the generalisability of findings. The sample age profile signifies that the majority of the respondents belong to the 26–35 age group and the 18–25 age group which limits the applicability of findings on the age group more than 35 years. PFN may work as a multi-dimensional construct which needs to be tested further. Future studies can take samples from different countries and age groups to expand the findings of the study. Researchers can utilise other asymmetric methods to study the causal relationship between the variables other than structural equation modelling (symmetric approach).

References

- Ahluwalia, R., Burnkrant, R.E. and Unnava, H.R. (2000) 'Consumer response to negative publicity: the moderating role of commitment', *Journal of Marketing Research*, Vol. 37, No. 2, pp.203–214.
- Akoglu, H.E. and Özbek, O. (2022) 'The effect of brand experiences on brand loyalty through perceived quality and brand trust: a study on sports consumers', *Asia Pacific Journal of Marketing and Logistics*, Vol. 34, No. 10, pp.2130–2148.
- Apuke, O.D. and Omar, B. (2021) 'Fake news and COVID-19: modelling the predictors of fake news sharing among social media users', *Telematics and Informatics*, Vol. 56, No. 1, p.101475.
- Arya, V., Verma, H., Sethi, D., and Agarwal, R. (2019) 'Brand authenticity and brand attachment: How online communities built on social networking vehicles moderate the consumers' brand attachment', *IIM Kozhikode Society and Management Review*, Vol. 8, No. 2, pp.87–103.
- Atulkar, S. (2020) 'Brand trust and brand loyalty in mall shoppers', *Marketing Intelligence and Planning*, Vol. 38, No. 5, pp.559–572.
- Barijan, D., Ariningsih, E.P. and Rahmawati, F. (2021) 'The influence of brand trust, brand familiarity, and brand experience on brand attachments', *Journal of Digital Marketing and Halal Industry*, Vol. 3, No. 1, pp.73–84.
- Bezbaruah, S., Dhir, A., Talwar, S., Tan, T.M. and Kaur, P. (2022) 'Believing and acting on fake news related to natural food: the influential role of brand trust and system trust', *British Food Journal*, Vol. 124, No. 9, pp.2937–2962.
- Bihari, A., Dash, M., Muduli, K., Kumar, A., Mulat-Weldemeskel, E., and Luthra, S. (2023) 'Does cognitive biased knowledge influence investor decisions? An empirical investigation using machine learning and artificial neural network', *VINE Journal of Information and Knowledge Management Systems*, in press.
- Borges-Tiago, T., Tiago, F., Silva, O., Guaita Martínez, J.M. and Botella-Carrubi, D. (2020) 'Online users' attitudes toward fake news: Implications for brand management', *Psychology and Marketing*, Vol. 37, No. 9, pp.1171–1184.
- Chang, C.W., Ko C.H., Huang H.C. and Wang S.J. (2020) 'Brand community identification matters: a dual value-creation routes framework', *Journal of Product and Brand Management*, Vol. 29, No. 3, pp.289–306.
- Chan-Olmsted, S.M. and Qin, Y.S. (2021) 'The impact of fake news on its sponsor's brand trust', *Journal of Brand Strategy*, Vol. 9, No. 4, pp.446–465.
- Chen, Z.F. and Cheng, Y. (2020) 'Consumer response to fake news about brands on social media: the effects of self-efficacy, media trust, and persuasion knowledge on brand trust', *Journal of Product and Brand Management*, Vol. 29, No. 2, pp.188–198.
- Chinomona, E. and Maziriri, E.T. (2017) 'The influence of brand trust, brand familiarity and brand experience on brand attachment: a case of consumers in the Gauteng Province of South Africa', *Journal of Economics and Behavioral Studies*, Vol. 9, No. 1, pp.69–81.
- Compton, J., Jackson, B. and Dimmock, J.A. (2016) 'Persuading others to avoid persuasion: inoculation theory and resistant health attitudes', *Frontiers in Psychology*, Vol. 7, No. 1, DOI: 10.3389/fpsyg.2016.00122.
- Dafonte-Gómez, A. (2018) 'Audience as medium: motivations and emotions in news sharing', *International Journal of Communication*, Vol. 12, No. 1, pp.2133–2152.
- Dam, T.C. (2020) 'Influence of brand trust, perceived value on brand preference and purchase intention', *The Journal of Asian Finance, Economics and Business*, Vol. 7, No. 10, pp.939–947.
- Delgado-Ballester, E. and Munuera-Alemán, J.L. (2001) 'Brand trust in the context of consumer loyalty', *European Journal of marketing*, Vol. 35, Nos. 11/12, pp.1238–1258.
- Di Domenico, G., and Visentin, M. (2020) 'Fake news or true lies? Reflections about problematic contents in marketing', *International Journal of Market Research*, Vol. 62, No. 4, pp.409–417.

- Di Domenico, G., Sit, J., Ishizaka, A. and Nunan, D. (2021) 'Fake news, social media and marketing: a systematic review', *Journal of Business Research*, Vol. 124, No. 1, pp.329–341.
- Dwivedi, A., Johnson, L.W., Wilkie, D.C. and De Araujo-Gil, L. (2018) 'Consumer emotional brand attachment with social media brands and social media brand equity', *European Journal of Marketing*, Vol. 53, No. 6, pp.1176–1204.
- Egelhofer, J.L. and Lecheler, S. (2019) 'Fake news as a two-dimensional phenomenon: a framework and research agenda', *Annals of the International Communication Association*, Vol. 43, No. 2, pp.97–116.
- Einwiller, S.A. and Kamins, M.A. (2008) 'Rumor has it: the moderating effect of identification on rumor impact and the effectiveness of rumor refutation', *Journal of Applied Social Psychology*, Vol. 38, No. 9, pp.2248–2272.
- Fârte, G.I. and Obadă, D.R. (2021) 'The effects of fake news on consumers' brand trust', *Romanian Journal of Communication and Public Relations*, Vol. 23, No. 3, pp.47–61.
- Flostrand, A., Pitt, L., and Kietzmann, J. (2020) 'Fake news and brand management: a Delphi study of impact, vulnerability and mitigation', *Journal of product and brand management*, Vol.29, No.2, pp.246-254.
- Frasquet, M., Molla Descals, A. and Ruiz-Molina, M.E. (2017) 'Understanding loyalty in multichannel retailing: the role of brand trust and brand attachment', *International Journal of Retail and Distribution Management*, Vol. 45, No. 6, pp.608–625.
- Gupta, A., Li, H., Farnoush, A. and Jiang, W. (2022) 'Understanding patterns of COVID infodemic: a systematic and pragmatic approach to curb fake news', *Journal of Business Research*, Vol. 140, No. 1, pp.670–683.
- Gupta, P., Pranjali, P., Bera, S., Sarkar, S. and Sachan, A. (2021a) 'Performance improvement of supplier-side e-tender-driven marketing process', *International Journal of Productivity and Performance Management*, Vol. 70, No. 8, pp.2032–2051, <https://doi.org/10.1108/IJPPM-11-2019-0534>.
- Gupta, P., Pranjali, P., Sachan, A. and Prasad, P. (2021b) 'Managing arrival variability in healthcare services: case of an out-patient department', *International Journal of Productivity and Quality Management*, Vol. 34, No. 2, pp.135–157.
- Gupta, P., Sachan, A., and Kumar, R. (2020) 'Different stages of the e-service delivery system process: belief-attitude-intention framework', *International Journal of Retail and Distribution Management*, Vol. 48, No. 7, pp.687–706.
- Hargreaves, S. (2008) 'Steve jobs rumor causes brief fall in apple stock', *CNN Money* [online] <https://money.cnn.com/2008/10/03/technology/apple/> (accessed 3 October 2023).
- Huaman-Ramirez, R. and Merunka, D. (2019) 'Brand experience effects on brand attachment: the role of brand trust, age, and income', *European Business Review*, Vol. 31, No. 5, pp.610–645.
- Hwang, J., Choe, J.Y.J., Kim, H.M. and Kim, J.J. (2021) 'Human baristas and robot baristas: How does brand experience affect brand satisfaction, brand attitude, brand attachment, and brand loyalty?', *International Journal of Hospitality Management*, Vol. 99, No. 1, p.103050.
- Ibrahim, B., Aljarah, A. and Sawaftah, D. (2021) 'Linking social media marketing activities to revisit intention through brand trust and brand loyalty on the coffee shop Facebook pages: exploring sequential mediation mechanism', *Sustainability*, Vol. 13, No. 4, p.2277.
- Isaac, O., Abdullah, Z., Ramayah, T. and Mutahar, A.M. (2018) 'Factors determining user satisfaction of internet usage among public sector employees in Yemen', *International Journal of Technological Learning, Innovation and Development*, Vol. 10, No. 1, pp.37–68.
- Japutra, A., Ekinci, Y. and Simkin, L. (2014) 'Exploring brand attachment, its determinants and outcomes', *Journal of strategic Marketing*, Vol. 22, No. 7, pp.616–630.
- Jeong, S.H., Cho, H. and Hwang, Y. (2012) 'Media literacy interventions: a meta-analytic review', *Journal of Communication*, Vol. 62, No. 3, pp.454–472.
- Johar, G.V. (2022) 'Untangling the web of misinformation and false beliefs', *Journal of Consumer Psychology*, Vol. 32, No. 2, pp.374–383.

- Katz, E., Blumler, J. and Guretvich, M. (1974) 'Uses of mass communication by the individual', in *The Uses of Mass Communications: Current Perspectives on Gratifications Research*, pp.19–32.
- Kaurav, R.P.S. and Gupta, P. (2022) 'Trends in multidiscipline management research: past, present and future of FIIB business review', *FIIB Business Review*, Vol. 11, No. 4, pp.382–404, <https://doi.org/10.1177/23197145221136966>.
- Kim, R.B. and Chao, Y. (2019) 'Effects of brand experience, brand image and brand trust on brand building process: the case of Chinese millennial generation consumers', *Journal of International Studies*, Vol. 12, No. 3, pp.9–21.
- Kumar, S., Talwar, S., Krishnan, S., Kaur, P. and Dhir, A. (2021a) 'Purchasing natural personal care products in the era of fake news? The moderation effect of brand trust', *Journal of Retailing and Consumer Services*, Vol. 63, No. 1, p.102668.
- Kumar, R., Kumar, R., Sachan, A. and Gupta, P. (2021b) 'An examination of the e-government service value chain', *Information Technology and People*, Vol. 34, No. 3, pp.889–911, <https://doi.org/10.1108/ITP-09-2018-0438>.
- Kwan Soo Shin, S., Amenuvor, F.E., Basilisco, R. and Owusu-Antwi, K. (2019) 'Brand trust and brand loyalty: a moderation and mediation perspective', *Current Journal of Applied Science and Technology*, Vol. 38, No. 4, pp.1–17.
- Ladeira, W.J., Dalmoro, M., Santini, F.D.O. and Jardim, W.C. (2022) 'Visual cognition of fake news: the effects of consumer brand engagement', *Journal of Marketing Communications*, Vol. 28, No. 6, pp.681–701.
- Lam, S.K., Ahearne, M., Mullins, R., Hayati, B. and Schillewaert, N. (2013) 'Exploring the dynamics of antecedents to consumer-brand identification with a new brand', *Journal of the Academy of Marketing Science*, Vol.41, No. 1, pp.234–252.
- Laroche, M., Habibi, M.R., Richard, M-O. and Sankaranarayanan, R. (2012) 'The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty', *Computers in Human Behavior*, Vol. 28, No. 1, pp.1755–1767.
- Marra, A., Cassetta, E., and Antonelli, P. (2017) 'Emerging specialisations and software metropolitan clusters – a comparative network analysis on San Francisco, New York and London', *International Journal of Technological Learning, Innovation and Development*, Vol. 9, No. 1, pp.17–41.
- Martel, C., Pennycook, G. and Rand, D.G. (2020) 'Reliance on emotion promotes belief in fake news', *Cognitive Research: Principles and Implications*, Vol. 5, No. 1, DOI: 10.1186/s41235-020-00252-3.
- Mayer, R., Davis, J. and Schoorman, D. (1995) 'An integrative model of organizational trust', *Academy of Management Review*, Vol. 20, No. 1, pp.709–734.
- McGuire, W.J. (1964) 'Inducing resistance to persuasion', *Advances in Experimental Social Psychology*, Vol. 1, pp.191–229.
- Mills, A.J. and Robson, K. (2020) 'Brand management in the era of fake news: narrative response as a strategy to insulate brand value', *Journal of Product and Brand Management*, Vol. 29, No. 2, pp.159–167.
- Mills, A.J., Pitt, C. and Ferguson, S.L. (2019) 'The relationship between fake news and advertising: Brand management in the era of programmatic advertising and prolific falsehood', *Journal of Advertising Research*, Vol. 59, No. 1, pp.3–8.
- Mim, K.B., Jai, T.C. and Lee, S. (2022) 'Is sustainable positioning the new path to achieve eWOM and brand loyalty? An investigation on the Gen Z market of US apparel brands', in *International Textile and Apparel Association Annual Conference Proceedings*, Iowa State University Digital Press, December, Vol. 79, No. 1.
- Mishra, A. and Samu, S. (2021) 'Impact of fake news on social image perceptions and consumers' behavioral intentions', *Journal of Consumer Marketing*, ahead-of-print.

- Muduli, K. and Barve, A. (2013) 'Empirical investigation of the barriers of green supply chain management (GSCM) implementation in Indian mining industries', in *3rd International Conference on Business, Economics, Management and Behavioral Sciences (ICBEMBS'2013)*, Singapore, 29–30 April.
- Muduli, K. and Barve, A. (2015) 'Analysis of critical activities for GSCM implementation in mining supply chains in India using fuzzy analytical hierarchy process', *International Journal of Business Excellence*, Vol. 8, No. 6, pp.767–797.
- Muduli, K.K., Luthra, S., Kumar Mangla, S., Jabbour, C.J.C., Aich, S. and de Guimaraes, J.C.F. (2020) 'Environmental management and the 'soft side' of organisations: discovering the most relevant behavioural factors in green supply chains', *Business Strategy and the Environment*, Vol. 29, No. 4, pp.1647–1665.
- Obadā, D.R. and Dabija, D.C. (2022) "'In flow'! why do users share fake news about environmentally friendly brands on social media?", *International Journal of Environmental Research and Public Health*, Vol. 19, No. 8, p.4861.
- Pennycook, G. and Rand, D.G. (2021) 'The psychology of fake news', *Trends in Cognitive Sciences*, Vol. 25, No. 5, pp.388–402.
- Peterson, M. (2020) 'A high-speed world with fake news: brand managers take warning', *Journal of Product and Brand Management*, Vol. 29, No. 2, pp.234–245.
- Proksch, M., Orth, U.R. and Bethge, F. (2013) 'Disentangling the influence of attachment anxiety and attachment security in consumer formation of attachments to brands', *Journal of Consumer Behaviour*, Vol. 12, No. 4, pp.318–326.
- Rabbanee, F.K., Roy, R. and Spence, M.T. (2020) 'Factors affecting consumer engagement on online social networks: self-congruity, brand attachment, and self-extension tendency', *European Journal of Marketing*, Vol. 54, No. 6, pp.1407–1431.
- Rajaobelina, L., Prom Tep, S., Arcand, M. and Ricard, L. (2021) 'The relationship of brand attachment and mobile banking service quality with positive word-of-mouth', *Journal of Product and Brand Management*, Vol. 30, No. 8, pp.1162–1175.
- Reis, J.C., Correia, A., Murai, F., Veloso, A. and Benevenuto, F. (2019) 'Supervised learning for fake news detection', *IEEE Intelligent Systems*, Vol. 34, No. 2, pp.76–81.
- Revesz, R. (2017) 'Donald trump tweets about Toyota, company instantly loses \$1.2bn', *The Independent* [online] www.independent.co.uk/news/world/americas/toyota-12bn-value-plummet-shares-stock-market-donald-trump-tweet-move-mexico-tax-a7512096.html (accessed 5 January 2023).
- Sahoo, S.R. and Gupta, B.B. (2021) 'Multiple features based approach for automatic fake news detection on social networks using deep learning', *Applied Soft Computing*, Vol. 100, No. 1, p.106983.
- Sharif, A., Awan, T.M. and Paracha, O.S. (2022) 'The fake news effect: what does it mean for consumer behavioral intentions towards brands?', *Journal of Information, Communication and Ethics in Society*, Vol. 20, No. 2, pp.291–307.
- Shetty, K. and Fitzsimmons, J.R. (2022) 'The effect of brand personality congruence, brand attachment and brand love on loyalty among HENRY's in the luxury branding sector', *Journal of Fashion Marketing and Management: An International Journal*, Vol. 26, No. 1, pp.21–35.
- Shimul, A.S. (2022) 'Brand attachment: a review and future research', *Journal of Brand Management*, Vol. 29, No. 4, pp.400–419.
- Singh, J., Rana, S., Abdul Hamid, A.B. and Gupta, P. (2023) 'Who should hold the baton of aviation sustainability?', *Social Responsibility Journal*, Vol. 19, No. 7, pp.1161–1177, <https://doi.org/10.1108/SRJ-05-2021-0181>.
- Stokburger-Sauer, N., Ratneshwar, S. and Sen, S. (2012) 'Drivers of consumer-brand identification', *International Journal of Research in Marketing*, Vol. 29, No. 4, pp.406–418.
- Talwar, S. et al. (2020) 'Sharing of fake news on social media: application of the honeycomb framework and the third-person effect hypothesis', *Journal of Retailing and Consumer Services*, Vol. 57, No. 1, DOI: 10.1016/j.jretconser.2020.102197.

- Talwar, S., Dhir, A., Kaur, P., Zafar, N. and Alrasheedy, M. (2019) 'Why do people share fake news? Associations between the dark side of social media use and fake news sharing behavior', *Journal of Retailing and Consumer Services*, Vol. 51, No. 1, pp.72–82.
- Tsiotsou, R. (2010) 'Brand loyalty through brand attachment and brand trust: a relational perspective', in *Proceedings of 6th Thought Leaders International Conference in Brand Management*, pp.18–20.
- Tuškej, U., Golob, U. and Podnar, K. (2013) 'The role of consumer-brand identification in building brand relationships', *Journal of Business Research*, Vol. 66, No. 1, pp.53–59.
- Wolter, J.S., Brach, S., Cronin, J.J. and Bonn, M. (2016) 'Symbolic drivers of consumer-brand identification and disidentification', *Journal of Business Research*, Vol. 69, No. 2, pp.785–793.
- Zhang, X. and Ghorbani, A.A. (2020) 'An overview of online fake news: characterization, detection, and discussion', *Information Processing and Management*, Vol. 57, No. 2, p.102025.
- Zhou, X., Jain, A., Phoha, V.V. and Zafarani, R. (2020) 'Fake news early detection: a theory-driven model', *Digital Threats: Research and Practice*, Vol. 1, No. 2, pp.1–25.
- Zhou, Z., Zhang, Q., Su, C. and Zhou, N. (2012) 'How do brand communities generate brand relationships? Intermediate mechanisms', *Journal of Business Research*, Vol. 65, No. 7, pp.890–895.