Motives for Consumer Behavioral Engagement on Brand-Related Social Media Content: A Study Based on Organismic Integration Theory and Personality

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Abstract

This study adopts organismic integration theory (OIT) to classify and contrast the predominant roles of five motivations (i.e., economic incentives, self-presentation, information acquisition, altruism, and enjoyment) in fostering three levels of behavioral engagement on brand-related social media content. This study further examines the moderating effect of personality (thinkers vs. feelers) on these relationships. The results of PLS-SEM reveal the greater impact of autonomous motivations on content consumption (enjoyment and information acquisition) and content contribution and creation (altruism and information acquisition), compared with controlled motivations (self-presentation and economic incentives). This study also finds that thinkers mostly engage on brand-related content for information acquisition and economic incentives, whereas feelers are mostly driven by enjoyment for content consumption and by altruism for content contribution and creation. This study addresses the inconsistency in prior research findings and provides practical implications to social media marketers.

Keywords: Behavioral engagement, Motivations, Personality, Social media content

1. Introduction

The proliferation of social media, especially social network services (SNSs) has dramatically impacted daily activities of humans as well as the way they communicate with brands. Globally, over 3 billion people access at least one social media service with average usage time of about 47 minutes per day to share their private moments, keep in touch with friends and family, join communities, read news, and interact with businesses (Ericsson 2018). As a result, consumers no longer passively receive branded information posted on SNSs; instead, they actively comment and share brand's posts and other users' brand-related posts (Ha et al. 2015; Nguyen and Park 2022). Seizing this ideal opportunity, brands have established their presence on SNSs to implement their advertising strategies, manage customer relationships, and do market research (Kaplan and Haenlein 2010; Smith, Fischer, and Yongjian 2012).

Along with this phenomenon, consumer engagement has become an interest of both academics and practitioners of online marketing (Brodie et al. 2013), because it is the most appropriate avenue to form and maintain customer-brand relationships. As stated by prior researchers (Barger, Peltier, and Schultz 2016; Vivek, Beatty, and Morgan 2012), fostering consumer engagement can help to achieve branding outcomes such as brand commitment, consumer satisfaction, and consumer value.

Early studies adopt different motivational theories to explore the underlying factors that motivate consumers to engage on brand-related content. Correspondingly, intrinsic and extrinsic motivations drawn on self-determination theory (SDT) have been commonly discussed (e.g., Kim and Drumwright 2016; Poch and Martin 2015; Yesiloglu, Memery, and Chapleo 2021), but their predominant roles in fostering consumer behavioral engagement are still questionable. In addition, prior researchers provide supporting evidence for extrinsic motivations such as economic

incentives (Poch and Martin 2015; Yesiloglu, Memery, and Chapleo 2021), information-seeking, and personal identity (Qin 2020), but there is still an open room for investigating which one can better stimulate consumers to engage on brand-related content than the others. Finally, the moderating role of personality has been investigated in this stream of research by exclusively adopting Big Five personality traits (i.e., Dedeoğlu et al. 2019; Gonzalez-Rodriguez et al. 2021; Presi, Saridakis, and Hartmans 2014). As stated, however, using a classification of personality based on types is more appropriate to predict behavioral intention of human than using higher-level trait personality test such as Big Five Model (Changchit, Cutshall, and Pham 2022).

Given these extant gaps of literature, this study firstly employs the lens of OIT (one of six mini-theories of SDT; Deci and Ryan 1985) to investigate how five motivations differently trigger consumers to behaviorally engage on brand-related social media content (i.e., economic incentives, self-presentation, information acquisition, altruism, and enjoyment). It is noted that OIT complements to literature of SDT by suggesting four types of extrinsic motivation (i.e., external, introjected, identified, and integrated regulations) regarding their degrees of autonomy/control. Accordingly, some extrinsic motivations with high-autonomous degrees can greatly stimulate consumer behavior (e.g., consumer engagement) as intrinsic motivations do (Ryan and Deci 2000). Because extrinsic motivations can be reinforced by environmental factors (Wang, Lin, and Spencer 2019), we argue that understanding what and how to trigger them is an essential step for successful marketing campaigns. In this sense, our deep investigation into this issue will hopefully provide more insights for practitioners. Secondly, this study adopts personality classification (thinking-feeling dichotomy) drawn on Myers-Briggs Type Indicator (MBTI; Myers and McCaulley 1998) to examine its moderating effect on consumers' engagement behaviors because it is more related to the information and decision-making process (Jung 1921). In support, a research by Yoon and Lim (2018) in online shopping indicates that MBTI, not Big Five model, plays a significant role in predicting compulsive buying behavior. Likewise, Wu, Ke, and Nguyen (2018) show that personality types drawn on MBTI significantly moderate the influence of antecedents on online shopping behavior in electronic commerce. Following these studies, we attempt to provide empirical support and validation of MBTI in predicting consumer behavioral engagement on brand-related social media content. Moreover, our study significantly contributes to online marketing practices in terms of segmenting consumers based on their engaged motives and personalities.

2. Theoretical background and hypotheses

2.1. Consumer behavioral engagement

The notion of consumer engagement is extensively investigated by previous researchers, which results in its inconsistent conceptualization. However, the most widely referenced definitions are traced to studies conducted by Brodie and Hollebeek (Lim et al. 2022). Particularly, Hollebeek (2011) defines customer engagement as "the level of an individual customer's motivational, brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in direct brand interactions". In addition, Brodie et al. (2011) view "customer engagement as a psychological state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object in focal service relationships".

Although consumer engagement includes cognitive, emotional, and behavioral components, most of studies on social media content merely approach this construct based on behavioral aspect (Barger, Peltier, and Schultz 2016; Muntinga, Moorman, and Smit 2011; Schivinski, Christodoulides, and Dabrowski 2016). In alignment with prior research, this study focuses on consumer behavioral engagement because of three reasons. Firstly, consumer engagement is more related to actions and behaviors than thoughts and feelings (Triantafillidou and Siomkos 2018). Secondly, engagement activities (e.g., sharing, commenting, or creating content) are more valued to companies because they can generate brand awareness and impression (Nikolinakou and Phua 2020). Lastly, this study argues that consumers also devote much cognitive effort when creating their own content, leaving comments, or sharing content. Besides, online consumers are allowed to use emoticons to response to posts on SNSs. To that extent, behavioral engagement may contain cognitive and/or emotional aspects. Accordingly, this study adopts three distinct behaviors of consumer engagement (i.e., consumption, contribution, and creation) with their engaged levels ranging from low (passive) to high (active) respectively (Schivinski, Christodoulides, and Dabrowski 2016). Specifically, content consumption is the minimum level of engagement with passive activities such as reading brand-related posts, watching brand-related videos, and following brand's pages. Content contribution is the medium level of engagement with more active activities such as liking, commenting, and sharing brand-related posts. Finally, content creation

is the highest level of engagement with proactive and explicit activities such as posting content, uploading pictures/videos, and writing reviews/evaluations related to brands.

2.2. Organismic integration theory

OIT illustrates different types of extrinsic motivation (i.e., external, introjected, identified, and integrated regulations) falling into controlled/autonomous styles and indicates contextual factors that promote or deter them (Deci and Ryan 1985; Ryan and Deci 2000). Specifically, external regulation or extrinsic motivation is the least autonomous form (controlled behavior) in which people behave to satisfy external demand, obtain extrinsic rewards, or avoid punishment. Introjected motivation represents human behaviors with the purpose of maintaining/enhancing their self-esteem or avoiding guilt, anxiety, and other's disapproval. It still reflects controlled style due to the presence of external pressure to perform an activity. By contrast, identification is a more autonomous form wherein people engage in an activity because they perceive the value of their behaviors and accept them as their own. The final form of extrinsic motivation is integrated regulation, which reflects the highest level of autonomy and full internalization. Because of high correlation, integrated motivation and intrinsic motivation are comprised and used interchangeably in some marketing research (Gilal et al. 2021). Therefore, this study adopts the term of integrated/intrinsic motivation to illustrate human behaviors that reflect their own sake or self-interest.

Furthermore, OIT is considered a pioneering motivational theory dealing with how to transform an individual's extrinsically motivated behavior into his/her internal action (Gilal et al. 2019; Ryan and Deci 2000). As discussed, extrinsic motivation can be operationalized to different autonomous degrees ranging from low to high. More autonomous types of motivation (identified and integrated/intrinsic) are strongly correlated to positive outcomes such as wellness, perceived competence, and engagement, whereas more controlled types (extrinsic and introjected) are likely to be associated with poor outcomes, including lower performance, less interest, or higher dropping out (Deci and Ryan 1985; Ryan and Deci 2000). That is, well-internalized extrinsic motivations result in greater effectiveness and well-being.

2.3. Hypotheses and research model

This study proposes a research model (see Fig. 1) to determine and compare the roles of five motivations (economic incentives, self-presentation, information acquisition, altruism, and enjoyment) in fostering consumer behavioral engagement on brand-related social media content. In addition, this study investigates the moderating effect of personality (thinkers vs. feelers) on these relationships.

2.3.1. Motives for consumer behavioral engagement on brand-related social media content

In this study, five motivations are selected because they represent a combination of self-interest motives (economic incentives, self-presentation, information acquisition, and enjoyment) and social motive (altruism). Both types of motive are found to significantly drive consumers to engage on WoM (Alexandrov, Lilly, and Babakus 2013) and to share branded content (Fu, Wu, and Cho 2017). The re-investigation on them aims to address the ambiguous findings from prior research. Considering the above discussion, this study
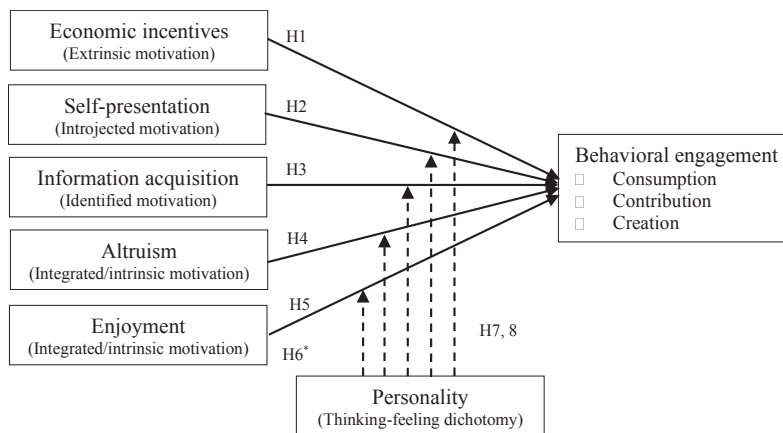
Note: H6*: comparing effect sizes of five motivations on behavioral engagement.

Fig. 1. Research model.

firstly investigates the effects of these motivations on content consumption, content contribution, and content creation. Then, based on OIT, this study attempts to identify the most important motivations for each engaged behavior. The hypotheses are proposed as follows:

Economic incentives refer to financial benefits (e.g., money, prizes, coupons, vouchers, discounts, or free product samples) that consumers desire to receive through behaviorally engaging on brand-related social media content. As found, economic incentives significantly stimulate content contribution through liking and sharing brand-related content (Lee, Lee, and Quilliam 2019; Tsai and Men 2013; Vilnai-Yavetz and Levina 2018). Further, a study on negative service experience after purchasing by Presi, Saridakis, and Hartmans (2014) reveals that dissatisfied customers are motivated to post user-generated content (UGC) to ask for company's compensation. Poch and Martin (2015) also evidence the positive relationship between extrinsic rewards and consumers' intention to create branded video content on YouTube. Similarly, a recent study by Yesiloglu, Memery, and Chapleo (2021) has reported that consumers are likely to create positive brand-related posts to seek for extrinsic rewards and create negative brand-related posts to seek for compensation. It is noted that while most of prior studies demonstrate the effect of economic incentives on active engagement behaviors such as contribution and creation, our study argues that consumers can also gain financial rewards from content consumption such as reading brand-related content, watching brand-related video, or following brands' pages. To support this, practical evidence shows that exclusive promotions are often offered to increase the number of followers for a brand (Royse 2018). Therefore, different from prior studies, our study proposes that economic incentives stimulate all three levels of engagement behavior. It is hypothesized that:

H1. *Economic incentives positively influence content consumption, content contribution, and content creation.*

Self-presentation is perceived as an individual's attempt to create a positive image or impression to other people within his/her social circle (Goffman 1959). In other words, self-presenters are directed to gain the acceptance of external audiences (Schlenker 1985). As found, self-presentation drives consumers to contribute and create branded content across social media platforms (Muntinga, Moorman, and Smit 2011). Similarly, Lee, Lee, and Quilliam (2019) indicate that self-presentation is associated with frequencies of sharing and re-sharing marketer-generated content and frequencies of adding comments. Likewise,

Swani and Labrecque (2020) state that commenting and sharing brand-related content on Facebook help consumers enhance their self-presentation. Because people who have desire for self-presentation are more concerned about the recognition, acceptance, or impression of other people within their social networks, this study argues that actively and explicitly engaging with brand-related content on SNSs (content contribution and content creation) will be the best avenue to satisfy this motivation. As stated, social media users can enhance their self-presentation by updating profile information, posting photograph, and creating content (Strano 2008) as well as by sharing useful information about brands and products with other audiences (Choi and Kim 2014). Based on these discussions, it is proposed that:

H2. *Self-presentation positively influences content contribution and content creation.*

Information acquisition refers to an individual's desire for gaining useful information through behaviorally engaging on brand-related social media content. Other similar terminologies such as knowledge function (Daugherty, Eastin, and Bright 2008), cognitive need (Leung 2013), and learning (Triantafillidou and Siomkos 2018) are also adopted to illustrate consumer's need for information within this stream of research. Prior studies find that people engage with brand-related activities on SNSs to acquire and exchange important information. According to Tsai and Men (2013), consumers obtain brand-related information through visiting and liking companies' Facebook pages. A research by Qin (2020) reveals similar findings, demonstrating that information seeking stimulates both content consumption and content contribution. Differently, Yesiloglu, Memery, and Chapleo (2021) report that information seeking only evokes consumers to consume brand's posts. Taking these inconsistent findings into account, our study states that consumers can gain useful information related to brand/products through all three levels of behavioral engagement. Specifically, consumers can browse/read brand's posts and other consumers' posts (consuming) or leave comments under these posts to discuss/exchange information (contributing). Additionally, they can actively create and share their content on online brand communities to seek further brand-related information and advice. A research by Leung (2013) supports that consumers can broaden their knowledge not only by reading other people's content but also by posting their own content to discuss the issues that they are concerned about. Based on these arguments, it is hypothesized that:

H3. *Information acquisition positively influences content consumption, content contribution, and content creation.*

Altruism is firstly used by Comte (1875) to describe social actions that are unselfishly motivated to benefits. Other scholars define altruism as a moral value that drives individuals to go beyond their selfishness and to prioritize the welfare of others without expecting external rewards or returns (Bar-Tal 1986; Krebs 1970; Schwartz and Howard 1984). In addition, Bar-Tal (1986) states that a helping act can be altruistic when it is performed for helper's own sake and for the expectation of internal rewards such as self-satisfaction. Prior studies on social media content show that altruistic action is significantly associated with consumer's willingness to create positive brand-related video content (Poch and Martin 2015) and to share e-business content on SNSs (Vilnai-Yavetz and Levina 2018). Altruism is also demonstrated as key motivation for UGC creation after negative purchase experiences (Presi, Saridakis, and Hartmans 2014). Based on these findings, it is clearly seen that consumers can disclose their altruism through explicitly engaged activities, for example creating UGC to share their brand-related information and buying experience with their friends. They can also re-share and leave comments on the existing brand-related content that is useful to others. Therefore, our study states that actively engaged behaviors (content contribution and content creation) are appropriate for consumers to achieve their altruistic motivation, compared with content consumption. It is hypothesized that:

H4. *Altruism positively influences content contribution and content creation.*

Enjoyment has gained the greatest attention from prior scholars investigating consumer brand engagement so far. Enjoyment is defined as a part of hedonic reward, including entertainment, fun, and amusement (Yesiloglu, Memery, and Chapleo 2021) that consumers obtain during their interaction with brands and other people on SNSs. As found, entertainment/fun is an important factor that triggers consumers to visit and like companies' Facebook pages (Shao and Ross 2015; Tsai and Men 2013) or to share e-business content on SNSs (Vilnai-Yavetz and Levina 2018). Similarly, Triantafillidou and Siomkos (2018) posit the term of hedonism, referring to feelings of pleasure and enjoyment, as a motivation of brand engagement on Facebook. In addition, Oliveira, Araujo, and Tam (2020) state that travellers are willing to share their travel experiences on SNSs as they find it to be joyful, beyond any other reasons.

Also, Park and Lee (2021) evidence the effect of self-enjoyment on striving Internet users to create and share their own UGC. Based on these previous findings, this study proposes that enjoyment stimulates all three engagement behaviors. Specifically, consumers can feel joyful by reading/watching branded content (consumption); by interacting with others through leaving comments/tagging friends under brand-related posts (contribution); and by posting their UGC (creation). In brief, it is hypothesized that:

H5. *Enjoyment positively influences content consumption, content contribution, and content creation.*

Within social media context, existing studies have demonstrated some important motivations for consumer engagement on brand-related social media content and shown inconsistent findings. For example, an early research by Tsai and Men (2013) reports that economic incentives (e.g., discount, free samples, and sweepstakes prizes) are the most powerful motivations for consumer engagement on brand pages, followed by information seeking and entertainment respectively. Differently, a study by Qin (2020) shows that information seeking and personal identity highly stimulate content consumption and content contribution. On the other hand, an investigation by Oliveira, Araujo, and Tam (2020) indicates perceived enjoyment (intrinsic motivation) as the most important motive for sharing travel experiences, compared with personal fulfilment and self-actualization (extrinsic motivation). A recent research by Yesiloglu, Memery, and Chapleo (2021) has revealed the significant impact of extrinsic rewards, information seeking, and enjoyment on consumer behavioral engagement on brand-related posts while no evidence has been found to support the effect of altruism. By contrast, some studies show that altruism is one of the strongest drivers for consumer behavioral engagement in terms of content sharing (Vilnai-Yavetz and Levina 2018) and content creation (Presi, Saridakis, and Hartmans 2014). To address this issue, our study adopts the notion of autonomous versus controlled motivation drawn on OIT to propose the dominant effect of highly autonomous motivations (i.e., integrated/intrinsic and identified motivation) over highly controlled ones (i.e., extrinsic and introjected motivation) on fostering three distinct engagement behaviors. In support, prior studies across domains (e.g., schoolwork, learning, and workplace engagement) show that the more autonomously an individual behaves, the more likely he/she maintains such behavior (Deci and Ryan 1985; Williams et al. 2006).

Among five proposed motivations, economic incentives are transparently consistent with characteristics of extrinsic motivation (i.e., extrinsic rewards) which has the lowest degree of autonomy. Self-presentation is mostly directed to gain the approval of external audiences (Schlenker 1985); therefore, we argue that it reflects a large extent of introjected motivation. Regarding information acquisition, consumers are motivated to engage on brand-related social media content to enrich their understanding/knowledge about brands and products, to utilize their decision-making process, or to avoid negative buying outcomes. Obviously, consumers are aware of the value of their engagement behavior; therefore, information acquisition is perceived to be associated with identified motivation. In terms of altruism motivation, our study posits that altruists volitionally help others (e.g., to make right decisions and to prevent them from bad experiences or unfavourable purchasing outcomes) due to the enjoyment of such action, rather than the instrumental values such as rewards and approval. In order words, altruism is perceived to share characteristics of integrated/intrinsic motivation. Finally, enjoyment is perceived to transparently match with integrated/intrinsic motivation in our study. This is because consumers consider their engagement with brand-related content on SNSs to be a pleasurable activity itself, rather than a mean by which they achieve instrumental values.

In addition, as proposed in the previous part, content consumption is stimulated by three motivations, namely economic incentives, information acquisition, and entertainment. Content consumption is the passive or lurking behavior; therefore, it may not facilitate the achievement of self-presentation and altruism needs. Based on the perspectives of OIT, our study states that enjoyment (integrated/intrinsic motivation) and information acquisition (identified motivation) have greater influences on content consumption than economic incentives (controlled motivation) do. Differently, consumers are proposed to contribute and create brand-related content due to five motivations. Based on OIT, our study argues that altruism and enjoyment (integrated/intrinsic motivation) and information acquisition (identified motivation) have greater influences on content contribution and content creation than self-presentation (introjected motivation) and economic incentives (extrinsic motivation) do respectively. In brief, they are hypothesized that:

H6a. *Enjoyment and information acquisition have greater influences on content consumption than economic incentives do.*

H6b. *Altruism, enjoyment, and information acquisition have greater influences on content contribution than self-presentation and economic incentives do.*

H6c. *Altruism, enjoyment, and information acquisition have greater influences on content creation than self-presentation and economic incentives do.*

2.3.2. The moderating effect of personality

Personality is defined by Allport (1961) as "the dynamic organization within the individual of those psychophysiological systems that determine his/her characteristic behavior and thought". Understanding personality of an individual helps to predict his/her attitude and behavior in general (Gonzalez-Rodriguez et al. 2021) and decision-making style in particular (García-Gallego, Ibáñez, and Georgantzis 2017). Different from prior research, this study adopts thinking-feeling dichotomy drawn on MBTI to find out whether consumers with different personality types are motivated to engage on brand-related social media content by different motivations.

Thinking-feeling dichotomy focuses on how people make decision based on gathered information. Venkatraman and MacInnis (1985) describe people with thinking personality style (hereafter thinkers) to be rational, cognitive, and active seekers of verbal and factual information, whereas people with feeling personality type (hereafter feelers) are hedonic individuals who enjoy intrinsic gratification, arousal, and emotion (Venkatraman and MacInnis 1985). Thinkers tend to be rational and impersonal when making choice (Corcoran 2015); therefore, this study proposes that they engage on brand-related content to gain potential benefits such as receiving economic rewards, seeking for branded information, and promoting their self-presentation. By contrast, feelers make decision based on their subjective values and emotions (Gardner and Martinko 1996), thus this study posits that feelers' behavioral engagement on branded content is compatible with autonomous motivations such as altruism and enjoyment. To support, prior researchers (Changchit, Cutshall, and Pham 2022; Corcoran 2015) show that emotional people are more likely to have cooperative and giving behaviors. Based on these arguments, this study proposes that:

H7. *Thinkers are more driven by information acquisition and economic incentives than enjoyment for (a) content consumption; and more driven by information acquisition, self-presentation, and economic incentives than altruism and enjoyment for (b) content contribution and (c) content creation.*

H8. *Feelers are more driven by enjoyment than information acquisition and economic incentives for (a) content consumption; and more driven by altruism and enjoyment than information acquisition, self-presentation, and economic incentives for (b) content contribution and (c) content creation.*

3. Methodology

3.1. Participants and data collection procedure

The targeting sample of this study was social media users, over the age of 18 years in Vietnam, who either consumed (e.g., reading and watching brand-related content without any reactions), contributed to brand-related content (e.g., commenting, sharing, or tagging friends), or created their own content related to brands. Firstly, respondents were asked to answer screening questions about "whether they have any SNSs account and have recently engaged with brand-related content posted on SNSs". Next, qualified respondents were asked to report their recently engaged activities and reasons for such behaviors. Then, they moved to personality test and ended the survey by providing their demographic information. All parts of questionnaire were initially designed in English and

then translated into Vietnamese by an independent translator.

Before main data collection, a pilot test with 15 participants was carried to test the measuring instrument. As a result, there were some changes in wordings of measurement items to ensure the reliability and clarity. Following pilot test, the questionnaire for main test had been distributed on nationwide panel of SNS users by a market research company for two weeks. For results, after removing 34 responses due to incompleteness, a total of 431 responses split into three subsamples ($N_{consumption} = 205$, $N_{contribution} = 213$, and $N_{creation} = 204$) were used for data analysis. The detailed information about respondent characteristics were shown in Table 1.

3.2. Measurement

All constructs of this study were measured by items adopted from previous literature, with minor modifications of wordings to fit our research context. Three levels of behavioral engagement were measured by 10 items borrowed from Schivinski, Christodoulides, and Dabrowski (2016) on five-point Likert scale (1 = never, 5 = always). Five motivations for behavioral engagement (economic incentives, self-presentation, information acquisition, altruism, and

Table 1. Demographic profile of respondents.

Variables	Category	Frequency	%
Gender	Male	132	32
	Female	281	68
Age	18 to 24 years old	148	35.8
	25 to 34 years old	204	49.4
	35 to 44 years old	49	11.9
	Above 44 years old	12	2.9
Education	High school or vocational degree	17	4.1
	College	73	17.7
	Bachelor's degree	216	52.3
	Master's degree or above	107	25.9
Profession	Employee	156	37.8
	Self-employed	98	23.7
	Student	125	30.3
	Unemployed	32	7.7
	Retired	2	0.5
Daily hours spent on SNSs	Less than 1 hour	104	25.2
	2 to 3 hours	228	55.2
	More than 3 hours	81	19.6
Most frequently engaged platform	Facebook	326	78.9
	Zalo	258	62.5
	YouTube	182	44.1
	Instagram	152	36.8
	Others	74	17.9
Most frequently engaged on branded content category	Fashion	131	31.7
	Restaurant	108	26.2
	Electronics	81	19.6
	Music and movie	67	16.2
	Others	26	6.3

Table 2. CMV testing results using Harman's single-factor approaches.

	Composite-based test	Factor-based test
Dataset of consumption	0.341	0.310
Dataset of contribution	0.468	0.439
Dataset of creation	0.352	0.319

enjoyment) were measured by 16 items on five-point Likert scale (1 = completely disagree, 5 = completely agree), adopted from related studies (Hennig-Thurau et al. 2004; Oliveira, Araujo, and Tam 2020; Qin 2020; Swani and Labrecque 2020; Yesiloglu, Memery, and Chapleo 2021). Measure of personality (thinking-feeling dichotomy) consisted of 5 items from the MBTI assessment following Changchit, Cutshall, and Pham (2022). All measurement items were shown in Appendix A.

3.3. Data analysis procedure

Three datasets of our study were analysed by using SmartPLS 4.0 (Ringle, Wende, and Becker 2022) with bootstrapping procedure using 5000 subsamples. This technique was proper for estimating and testing our hypotheses because of several reasons. Firstly, the Shapiro-Wilk tests from three datasets were significant, indicating non-normally distributed data. In addition, partial least squares structural equation

modeling (PLS-SEM) could work when the appropriate sample size was not available (Hair et al. 2017). Finally, this method fitted our research objective in terms of identifying prominent drivers which were used to predict consumers' engagement behaviors.

4. Results

4.1. Common method variance (CMV)

To detect common method bias, we adopted Harman's single-factor tests with implementing both composite-based and factor-based analysis as recommended by Kock (2021) by using WarpPLS version 8.0. Table 2 illustrated that average variance extracted (AVE) values of the latent variable from each dataset were lower than the 0.5 threshold in both methods, indicating a minimal issue of CMV in this study.

4.2. Measurement model and validity of measures

This study evaluated internal consistency and convergent validity of measurement model by assessing factor loadings, composite reliability (CR), and AVE. As shown in Table 3, the CR values of all constructs from three datasets were above 0.7, indicating the achievement of internal consistency (Hair et al.

Table 3. Measurement model: Factor loadings, CR and AVE.

Constructs	Items	Dataset of consumption			Dataset of contribution			Dataset of creation		
		Loading	CR	AVE	Loading	CR	AVE	Loading	CR	AVE
Economic incentives (EI)	EI1	0.782	0.865	0.681	0.828	0.858	0.669	0.863	0.858	0.669
	EI2	0.882			0.824			0.841		
	EI3	0.808			0.800			0.746		
Self-presentation (SP)	SP1	0.809	0.841	0.640	0.823	0.888	0.726	0.765	0.839	0.635
	SP2	0.741			0.868			0.836		
	SP3	0.846			0.864			0.788		
Information acquisition (IA)	IA1	0.829	0.884	0.717	0.835	0.875	0.700	0.841	0.871	0.693
	IA2	0.862			0.859			0.871		
	IA3	0.849			0.817			0.784		
Altruism (AL)	AL1	0.731	0.839	0.566	0.813	0.890	0.671	0.802	0.852	0.591
	AL2	0.805			0.774			0.801		
	AL3	0.732			0.827			0.751		
	AL4	0.740			0.859			0.716		
Enjoyment (ENJ)	ENJ1	0.821	0.864	0.680	0.848	0.869	0.689	0.829	0.847	0.649
	ENJ2	0.838			0.802			0.800		
	ENJ3	0.815			0.838			0.786		
Consumption (CS)	CS1	0.868	0.905	0.704						
	CS2	0.836								
	CS3	0.808								
	CS4	0.843								
Contribution (CT)	CT1				0.841	0.877	0.703			
	CT2				0.863					
	CT3				0.812					
Creation (CR)	CR1							0.823	0.885	0.719
	CR2							0.887		
	CR3							0.831		

2016). Also, the outer loadings of all indicators from three datasets were above 0.7, and the AVEs exceeded the threshold of 0.5 for all constructs (Götz, Liehr-Gobbers, and Krafft 2009). Therefore, convergent validity was confirmed.

This study adopted the heterotrait-monotrait ratio of correlations (HTMT) proposed by Henseler, Ringle, and Sarstedt (2015) and the Fornell-Larcker criterion proposed by Fornell and Larcker (1981) to test discriminant validity of measurement model. As illustrated in Table 4, the HTMT values of all constructs from three datasets were below 0.85 and the confident interval of HTMT values did not contain the value of one (Henseler, Ringle, and Sarstedt 2015).

In addition, the assessment of Fornell-Larcker criterion in Table 5 showed that regarding each dataset, the square root of the average variance extracted by each variable exceeded its correlations with other variables. Based on these results, it was inferred that three datasets met discriminant validity.

4.3. Structural model

To test the structural model, the explained variation (R^2) and the significance of path coefficients were evaluated. The results of structural model analysis were presented in Table 6. Specifically, content consumption was positively stimulated by enjoyment ($\beta = 0.323$, $f^2 = 0.108$, $p < 0.001$), information acquisition ($\beta = 0.293$, $f^2 = 0.091$, $p < 0.001$), and economic incentives ($\beta = 0.230$, $f^2 = 0.068$, $p < 0.001$). Three

Table 4. Results of heterotrait-monotrait ratio of correlations (HTMT) assessment.

Dataset of consumption

	AL	CS	EI	ENJ	IA
Altruism (AL)					
Consumption (CS)	0.245				
	(0.128–0.426)				
Economic incentives (EI)	0.171	0.715			
	(0.117–0.358)	(0.590–0.810)			
Enjoyment (ENJ)	0.251	0.795	0.749		
	(0.117–0.459)	(0.691–0.873)	(0.611–0.854)		
Information acquisition (IA)	0.339	0.768	0.723	0.835	
	(0.158–0.556)	(0.658–0.849)	(0.581–0.825)	(0.735–0.906)	
Self-presentation (SP)	0.604	0.289	0.310	0.466	0.357
	(0.414–0.762)	(0.138–0.509)	(0.167–0.497)	(0.219–0.694)	(0.149–0.597)

Dataset of contribution

	AL	CT	EI	ENJ	IA
Altruism (AL)					
Contribution (CT)	0.846				
	(0.721–0.921)				
Economic incentives (EI)	0.588	0.790			
	(0.304–0.750)	(0.572–0.894)			
Enjoyment (ENJ)	0.573	0.704	0.617		
	(0.358–0.725)	(0.516–0.827)	(0.384–0.769)		
Information acquisition (IA)	0.644	0.847	0.686	0.648	
	(0.402–0.772)	(0.689–0.925)	(0.395–0.819)	(0.411–0.792)	
Self-presentation (SP)	0.691	0.834	0.649	0.715	0.658
	(0.493–0.810)	(0.697–0.918)	(0.390–0.787)	(0.528–0.837)	(0.393–0.794)

Dataset of creation

	AL	CR	EI	ENJ	IA
Altruism (AL)					
Creation (CR)	0.683				
	(0.502–0.815)				
Economic incentives (EI)	0.354	0.699			
	(0.166–0.572)	(0.504–0.840)			
Enjoyment (ENJ)	0.228	0.612	0.335		
	(0.119–0.478)	(0.342–0.780)	(0.107–0.574)		
Information acquisition (IA)	0.498	0.835	0.683	0.435	
	(0.244–0.688)	(0.692–0.936)	(0.470–0.827)	(0.160–0.653)	
Self-presentation (SP)	0.590	0.824	0.564	0.585	0.610
	(0.302–0.777)	(0.690–0.939)	(0.333–0.733)	(0.312–0.768)	(0.331–0.781)

Table 5. Results of Fornell-Larcker criterion assessment.

Dataset of consumption

	AL	CS	EI	ENJ	IA	SP
Altruism (AL)	**0.752**					
Consumption (CS)	0.197	**0.839**				
Economic incentives (EI)	0.120	0.581	**0.825**			
Enjoyment (ENJ)	0.187	0.644	0.576	**0.825**		
Information acquisition (IA)	0.260	0.638	0.570	0.655	**0.847**	
Self-presentation (SP)	0.452	0.234	0.223	0.347	0.284	**0.800**

Dataset of contribution

	AL	CT	EI	ENJ	IA	SP
Altruism (AL)	**0.819**					
Contribution (CT)	0.690	**0.839**				
Economic incentives (EI)	0.467	0.611	**0.818**			
Enjoyment (ENJ)	0.460	0.553	0.472	**0.830**		
Information acquisition (IA)	0.524	0.667	0.527	0.506	**0.837**	
Self-presentation (SP)	0.569	0.670	0.508	0.569	0.526	**0.852**

Dataset of creation

	AL	CR	EI	ENJ	IA	SP
Altruism (AL)	**0.769**					
Creation (CR)	0.543	**0.848**				
Economic incentives (EI)	0.275	0.553	**0.818**			
Enjoyment (ENJ)	0.176	0.480	0.249	**0.805**		
Information acquisition (IA)	0.385	0.668	0.524	0.334	**0.833**	
Self-presentation (SP)	0.439	0.628	0.420	0.429	0.452	**0.797**

Note: The square root of AVEs were presented diagonally in bold.

types of motivation explained about 53% of variance in content consumption.

Content contribution was influenced by four motivations, namely altruism ($\beta = 0.311$, $f^2 = 0.180$, $p < 0.001$), information acquisition ($\beta = 0.254$, $f^2 = 0.117$, $p < 0.001$), self-presentation ($\beta = 0.228$, $f^2 = 0.086$, $p < 0.001$), and economic incentives ($\beta = 0.186$, $f^2 = 0.068$, $p < 0.001$). The stimulated effect of enjoyment

Table 6. Structural model analysis results.

Relationships	Original sample	Sample mean	STDEV	T-statistics	*P*-value	f^2	5% CI LL	95% CI UL
Dataset of consumption								
EI → CS	0.230	0.229	0.062	3.727	0.000***	0.068	0.126	0.328
SP → CS	−0.035	−0.030	0.063	0.556	0.289	0.002	−0.134	0.071
IA → CS	0.293	0.287	0.067	4.362	0.000***	0.091	0.173	0.398
AL → CS	0.049	0.060	0.058	0.853	0.197	0.004	−0.033	0.152
ENJ → CS	0.323	0.321	0.071	4.579	0.000***	0.108	0.204	0.441
Dataset of contribution								
EI → CT	0.186	0.187	0.044	4.246	0.000***	0.068	0.114	0.256
SP → CT	0.228	0.227	0.055	4.171	0.000***	0.086	0.136	0.318
IA → CT	0.254	0.252	0.046	5.525	0.000***	0.117	0.178	0.328
AL → CT	0.311	0.312	0.051	6.079	0.000***	0.180	0.226	0.394
ENJ → CT	0.063	0.065	0.047	1.346	0.089	0.007	−0.011	0.141
Dataset of creation								
EI → CR	0.180	0.181	0.060	3.016	0.001**	0.068	0.080	0.278
SP → CR	0.221	0.229	0.058	3.782	0.000***	0.091	0.135	0.327
IA → CR	0.317	0.316	0.064	4.972	0.000***	0.190	0.210	0.420
AL → CR	0.240	0.247	0.051	4.681	0.000***	0.135	0.166	0.333
ENJ → CR	0.192	0.194	0.059	3.016	0.001**	0.089	0.095	0.288

Note: AL: Altruism, CS: Consumption, CT: Contribution, CR: Creation, EI: Economic incentives, ENJ: Enjoyment, IA: Information acquisition, SP: Self-presentation, **$p < 0.01$, ***$p < 0.001$, one-tailed test.

on content contribution was not significant ($\beta = 0.063$, $f^2 = 0.007$, $p > 0.05$). The proposed model explained about 69% of variance in content contribution.

Content creation was stimulated by all five motivations, namely information acquisition ($\beta = 0.317$, $f^2 = 0.190$, $p < 0.001$), altruism ($\beta = 0.240$, $f^2 = 0.135$, $p < 0.001$), self-presentation ($\beta = 0.221$, $f^2 = 0.091$, $p < 0.001$), enjoyment ($\beta = 0.192$, $f^2 = 0.089$, $p < 0.01$), and economic incentives ($\beta = 0.180$, $f^2 = 0.068$, $p < 0.01$). These motivations explained about 67% of variance in content creation.

Based on these findings, it was interpreted that economic incentives and information acquisition significantly influenced all engagement behaviors. In order words, H1 and H3 were supported. Self-presentation and altruism were significant drivers for content contribution and content creation, which supported H2 and H4. Unexpectedly, enjoyment was found to influence two out of three engagement behaviors (content consumption and content creation); therefore, H5 was partially supported.

To test hypotheses (H6a, H6b, and H6c), we conducted Kruskal-Wallis tests for our non-normally distributed data (Field 2013; Kruskal and Wallis 1952) to validate the differences in the effect sizes of these motivations on consumer behavioral engagement. The results of Independent-samples Kruskal-Wallis tests provided strong evidence of statistically significant differences in the effect sizes of investigated motivations on each level of engagement behavior ($p < 0.001$). Further, Dunn's post-hoc tests were employed to evaluate the differences in the effect sizes of each pair of motivations. Specifically, the pairwise comparison results indicated that three motivations (economic incentives, information acquisition, and enjoyment) had significantly different effects on content consumption (adjusted p-values < 0.001). In addition, as shown in Table 6, enjoyment ($\beta = 0.323$, $p < 0.001$) had the strongest effect size on content consumption, followed by information acquisition ($\beta = 0.293$, $p < 0.001$) and economic incentives ($\beta = 0.230$, $p < 0.001$) respectively. Therefore, H6a was supported.

Similarly, pairwise comparison results showed the statistical differences in the effect sizes of four motivations (economic incentives, self-presentation, information acquisition, and altruism) on content contribution (adjusted p-values < 0.001). In addition, as shown in Table 6, altruism ($\beta = 0.311$, $p < 0.001$), information acquisition ($\beta = 0.254$, $p < 0.001$), and self-presentation ($\beta = 0.228$, $p < 0.001$) were the three most important motivations for content contribution respectively. Economic incentives ($\beta = 0.186$, $p < 0.001$) had the smallest effect size whereas enjoyment ($\beta = 0.063$, $p > 0.05$) had non-significant effect on content contribution. Therefore, H6b was rejected.

Finally, pairwise comparison results showed the statistical differences in the effect sizes of all five motivations on content creation (adjusted p-values < 0.001). In addition, as shown in Table 6, information acquisition ($\beta = 0.317$, $p < 0.001$) had the strongest effect size on content creation, followed by altruism ($\beta = 0.240$, $p < 0.001$) and self-presentation ($\beta = 0.221$, $p < 0.001$) respectively. Enjoyment ($\beta = 0.192$, $p < 0.01$) and economic incentives ($\beta = 0.180$, $p < 0.01$) had the smallest effect sizes on content creation. Therefore, H6c was rejected.

The results of these tests were summarized in Appendix B.

4.4. Multi-group analysis (MGA)

MGA was separately conducted for three datasets to test the moderating effect of personality (thinkers vs. feelers) on the proposed relationships. The sample size of each group from three datasets, namely consumption (101 thinkers and 104 feelers), contribution (108 thinkers and 105 feelers), and creation (103 thinkers and 101 feelers) exceeded the threshold of 98 (the minimum R^2 of 0.25 at 1% significance level in case of five arrows pointing at a construct) as recommended by Hair et al. (2017).

We firstly followed a three-step procedure to evaluate measurement invariance of composite models (MICOM) across two personality groups (Henseler, Ringle, and Sarstedt 2016). The results in Table 7 indicated that full measurement invariance was confirmed.

Then, MGA was carried using bootstrapping procedure with 5000 subsamples. The results of MGA were summarized in Table 8. In addition, Kruskal-Wallis tests and Dunn's post-hoc tests were also conducted to validate differences in effect sizes of the investigated motivations on thinkers' and feelers' engagement behaviors (see Appendix C).

As shown in Table 8, thinkers' content consumption was mostly influenced by information acquisition ($\beta = 0.284$, $p < 0.05$), followed by economic incentives ($\beta = 0.267$, $p < 0.01$) and enjoyment ($\beta = 0.255$, $p < 0.01$) respectively. In addition, the pairwise comparisons of Dunn's post-hoc test revealed that the effect size of information acquisition was statistically different from the ones of the others (adjusted p-values < 0.001). Unexpectedly, there was no evidence of difference in the effect sizes between economic incentives and enjoyment on thinkers' content consumption (adjusted p-value > 0.05). Therefore, H7a was rejected.

Thinkers' content contribution was influenced by four motivations (economic incentives, self-presentation, information acquisition, and altruism)

Table 7. Three-step MICOM assessment results.

	Step 1	Step 2		Step 3							
	Configural invariance	Original correlation	Per. p-values	Mean-original differences	5%	95%	Per. p-values	Variance-original differences	5%	95%	Per. p-values
Dataset of consumption											
AL	Yes	0.957	0.606	0.055	−0.227	0.229	0.362	−0.020	−0.598	0.577	0.480
CS	Yes	1.000	0.590	0.209	−0.230	0.229	0.064	0.005	−0.494	0.483	0.503
EI	Yes	0.999	0.600	0.078	−0.228	0.233	0.297	−0.128	−0.452	0.449	0.320
ENJ	Yes	0.998	0.318	0.120	−0.232	0.229	0.199	−0.214	−0.635	0.609	0.281
IA	Yes	0.999	0.362	0.188	−0.230	0.235	0.097	−0.045	−0.533	0.543	0.444
SP	Yes	0.932	0.366	0.152	−0.233	0.233	0.139	−0.621	−0.951	0.905	0.112
Dataset of contribution											
AL	Yes	0.999	0.302	−0.194	−0.225	0.222	0.077	−0.025	−0.541	0.544	0.465
CT	Yes	0.999	0.267	−0.101	−0.227	0.223	0.231	0.392	−0.755	0.744	0.190
EI	Yes	0.994	0.159	0.205	−0.222	0.220	0.064	−0.295	−0.681	0.655	0.234
ENJ	Yes	0.990	0.064	0.139	−0.224	0.227	0.156	0.037	−0.470	0.471	0.447
IA	Yes	0.995	0.079	0.116	−0.222	0.225	0.195	0.495	−0.889	0.872	0.171
SP	Yes	1.000	0.926	−0.012	−0.223	0.219	0.463	0.076	−0.610	0.594	0.427
Dataset of creation											
AL	Yes	0.997	0.620	−0.138	−0.234	0.226	0.166	−0.381	−0.513	0.507	0.152
CR	Yes	1.000	0.827	−0.177	−0.225	0.228	0.099	−0.267	−0.559	0.546	0.202
EI	Yes	0.997	0.544	−0.149	−0.229	0.225	0.145	−0.247	−0.467	0.462	0.188
ENJ	Yes	0.998	0.702	−0.107	−0.232	0.226	0.229	0.319	−0.649	0.648	0.218
IA	Yes	0.996	0.078	−0.004	−0.227	0.232	0.502	−0.205	−0.546	0.548	0.276
SP	Yes	0.998	0.668	−0.071	−0.232	0.229	0.314	−0.667	−0.892	0.915	0.166

Note: AL: Altruism, CS: Consumption, CT: Contribution, CR: Creation, EI: Economic incentives, ENJ: Enjoyment, IA: Information acquisition, SP: Self-presentation, Per. *P*-values: Permutation *p*-values.

with statistically different effect sizes (adjusted *p*-values < 0.001). As shown in Table 8, information acquisition ($\beta = 0.305$, $p < 0.001$) was the most important motivation, followed by economic incentives ($\beta = 0.281$, $p < 0.001$), altruism ($\beta = 0.232$, $p < 0.001$), and self-presentation ($\beta = 0.168$, $p < 0.01$) respectively. By contrast, the results of MGA in Table 8 indicated non-significant effect of enjoyment

Table 8. Bootstrapping results for thinkers and feelers separately.

	Thinkers					Feelers				
Relationships	Original sample	Sample mean	STDEV	T-statistics	p-value	Original sample	Sample mean	STDEV	T-statistics	p-value
Dataset of consumption										
EI → CS	0.267	0.243	0.099	2.695	0.004**	0.177	0.176	0.085	2.083	0.019*
SP → CS	−0.109	−0.059	0.126	0.864	0.194	−0.018	−0.023	0.098	0.181	0.428
IA → CS	0.284	0.288	0.123	2.310	0.010*	0.221	0.221	0.098	2.245	0.012*
AL → CS	0.121	0.107	0.115	1.057	0.145	−0.014	0.008	0.083	0.167	0.434
ENJ → CS	0.255	0.247	0.099	2.566	0.005**	0.486	0.479	0.105	4.635	0.000***
Dataset of contribution										
EI → CT	0.281	0.285	0.064	4.366	0.000***	0.157	0.155	0.069	2.270	0.012*
SP → CT	0.168	0.168	0.065	2.594	0.005**	0.284	0.267	0.098	2.904	0.002**
IA → CT	0.305	0.302	0.063	4.840	0.000***	0.172	0.166	0.072	2.383	0.009**
AL → CT	0.232	0.235	0.069	3.366	0.000***	0.327	0.317	0.084	3.892	0.000***
ENJ → CT	0.059	0.063	0.058	1.018	0.154	0.106	0.138	0.099	1.078	0.141
Dataset of creation										
EI → CR	0.262	0.252	0.099	2.643	0.004**	0.143	0.160	0.071	2.021	0.022*
SP → CR	0.212	0.220	0.078	2.707	0.003**	0.221	0.232	0.082	2.693	0.004**
IA → CR	0.353	0.347	0.091	3.861	0.000***	0.281	0.273	0.070	4.024	0.000***
AL → CR	0.169	0.178	0.064	2.632	0.004**	0.311	0.317	0.086	3.621	0.000***
ENJ → CR	0.192	0.187	0.090	2.129	0.017*	0.154	0.164	0.070	2.196	0.014*

Note: AL: Altruism, CS: Consumption, CT: Contribution, CR: Creation, EI: Economic incentives, ENJ: Enjoyment, IA: Information acquisition, SP: Self-presentation, *p < 0.05, **p < 0.01, ***p < 0.001, one-tailed test.

($\beta = 0.059$, $p > 0.05$) on thinkers' content contribution. Therefore, H7b was rejected.

Finally, thinkers were motivated to create brand-related content by all proposed motivations with statistically different effect sizes (adjusted p-values < 0.001). As shown in Table 8, information acquisition ($\beta = 0.353$, $p < 0.001$) was the most important motivation. Noticeably, economic incentives ($\beta = 0.262$, $p < 0.01$) had stronger effect on thinkers' content creation than self-presentation ($\beta = 0.212$, $p < 0.01$) did. Enjoyment ($\beta = 0.192$, $p < 0.05$) and altruism ($\beta = 0.169$, $p < 0.01$) had the smallest effect sizes on thinkers' content creation. Therefore, H7c was rejected.

Regarding feelers, pairwise comparison results also showed different effects of enjoyment, information acquisition, and economic incentives on their content consumption (adjusted p-values < 0.001). In addition, as shown in Table 8, feelers were more motivated to consume brand-related content by enjoyment ($\beta = 0.486$, $p < 0.001$) than information acquisition ($\beta = 0.221$, $p < 0.05$) and economic incentives ($\beta = 0.177$, $p < 0.05$). Therefore, H8a was supported.

Feelers' content contribution was found to be influenced by four motivations (economic incentives, self-presentation, information acquisition, and altruism) with statistically different effect sizes (adjusted p-values < 0.001). As shown in Table 8, altruism ($\beta = 0.327$, $p < 0.001$) had the strongest effect size, followed by self-presentation ($\beta = 0.284$, $p < 0.01$), information acquisition ($\beta = 0.172$, $p < 0.01$), and economic incentives ($\beta = 0.157$, $p < 0.05$) respectively. By contrast, enjoyment ($\beta = 0.106$, $p > 0.05$) had non-significant effect on feelers' content contribution. Therefore, H8b was rejected.

Feelers were also motivated to create brand-related content by all five proposed motivations with statistically different effect sizes (adjusted p-value (economic incentives – enjoyment) < 0.05, adjusted p-values (the other pairs) < 0.001). As shown in Table 8, altruism ($\beta = 0.311$, $p < 0.001$), information acquisition ($\beta = 0.281$, $p < 0.001$), and self-presentation ($\beta = 0.221$, $p < 0.01$) were three key drivers for feelers' content creation. Meanwhile, enjoyment ($\beta = 0.154$, $p < 0.05$) and economic incentives ($\beta = 0.143$, $p < 0.05$) had the lowest effect sizes. Therefore, H8c was rejected.

5. Discussion and conclusions

5.1. Discussion

Our study demonstrates and contrasts the impact of five motivations on consumer behavioral engagement with brand-related content on SNSs. Moreover, this study considers the role of personality in moderating these relationships. The conclusions of hypotheses are summarized in Table 9.

Out of five proposed motivations, information acquisition has significant impact on three engagement behaviors, which is consistent with prior studies across countries (Leung 2013; Qin 2020; Tsai and Men 2013; Yesiloglu, Memery, and Chapleo 2021). That is, consumers devote their time and efforts on engagement activities with brand-related content because they identify the importance of such activities in term of enriching their brand-related knowledge and/or supporting their buying decision process.

Economic incentives are found to trigger consumers to engage on brand-related social media content at all three levels with minor effect sizes. It should be highlighted that while prior studies (Poch and Martin 2015; Tsai and Men 2013; Vilnai-Yavetz and Levina 2018; Yesiloglu, Memery, and Chapleo 2021) focus on the impact of economic incentives on content contribution and content creation, our study supplements these findings by showing significant relationship between economic incentives and content consumption. In order words, consumers can also gain financial rewards when clicking/reading/watching brand-related content or following brand's pages. As reported, 16% of global social media users click on sponsored and promoted posts on social network (Gorman 2022) and they follow brand's pages to gain exclusive coupons and discounts across social media platforms (Royse 2018).

This study also supports previous research (Poch and Martin 2015; Presi, Saridakis, and Hartmans 2014; Vilnai-Yavetz and Levina 2018) which demonstrates the significant role of altruism in stimulating consumers to contribute and create brand-related content that may be useful to their peers. More interestingly, our finding is consistent with the one of a study conducted in Spain (a collectivist culture, see Gouveia et al. 2002; Rodríguez-González et al. 2020) by Oliveira, Araujo, and Tam (2020) in terms of demonstrating the important role of altruism in promoting consumers' content creation whereas a study conducted in United Kingdom by Yesiloglu, Memery, and Chapleo (2021) shows non-significant result.

Similarly, our study finds that active engagement activities on brand-related content (contribution and creation) are positively and significantly associated with self-presentation, which is in line with findings of prior research (Lee, Lee, and Quilliam 2019; Muntinga, Moorman, and Smit 2011; Swani and Labrecque 2020). Obviously, sharing and creating brand-related content is a strategic avenue so that people can express themselves as knowledgeable or well-informed consumers. In addition, research on selfie-marketing (e.g., Fox et al. 2018) finds that

Table 9. Summary of hypotheses and conclusions.

Hypotheses	Motivations	Behavioral engagement	Findings	Conclusion
H1	Economic incentives	Consumption Contribution Creation	Significant	Supported
H2	Self-presentation	Contribution Creation	Significant	Supported
H3	Information acquisition	Consumption Contribution Creation	Significant	Supported
H4	Altruism	Contribution Creation	Significant	Supported
H5	Enjoyment	Consumption	Significant	Partially Supported
		Contribution Creation	N/S Significant	
H6a	Enjoyment and information acquisition > economic incentives	Consumption	Significant	Supported
H6b	Altruism, enjoyment, and information acquisition > self-presentation and economic incentives	Contribution	Enjoyment (N/S)	Rejected
H6c	Altruism, enjoyment, and information acquisition > self-presentation and economic incentives	Creation	Enjoyment has minor effect	Rejected
H7a	Thinkers: information acquisition and economic incentives > enjoyment	Consumption	Non-significant difference in effect sizes of economic incentives and enjoyment	Rejected
H7b	Thinkers: information acquisition, self-presentation, and economic incentives > altruism and enjoyment	Contribution	Enjoyment (N/S)	Rejected
H7c	Thinkers: information acquisition, self-presentation, and economic incentives > altruism and enjoyment	Creation	Self-presentation < economic incentives	Rejected
H8a	Feelers: enjoyment > information acquisition and economic incentives	Consumption	Significant	Supported
H8b	Feelers: altruism and enjoyment > information acquisition, self-presentation, and economic incentives	Contribution	Enjoyment (N/S)	Rejected
H8c	Feelers: altruism and enjoyment > information acquisition, self-presentation, and economic incentives	Creation	Enjoyment has minor effect	Rejected

Note: N/S: non-significant.

creating visual brand-related content on social media platforms (e.g., Facebook, Twitter, Instagram, Snapchat, and Pinterest) is perceived as a tool for self-presentation by millennials.

In addition, this study reveals that consuming and creating brand-related content can promote consumers' feeling of enjoyment, which aligns with previous research (Oliveira, Araujo, and Tam 2020; Park and Lee 2021; Shao and Ross 2015; Triantafillidou and Siomkos 2018; Tsai and Men 2013; Vilnai-Yavetz and Levina 2018; Yesiloglu, Memery, and Chapleo 2021). It is noted that this study finds no evidence supporting the effect of enjoyment on consumers' content contribution. It can be explained that our respondents like, share, and/or comment on brand-related content primarily for seeking information, gaining financial rewards, and altruism. On the other hand, consumers perceive sharing and commenting on brand-related social media content to be joyful only when they consequently receive responses from brands and their peers. In other words, content contribution may not always provide consumers an outlet for enjoyment unless the presence of social interaction.

Based on OIT, this study attempts to identify the prominent motivations that trigger consumers to behaviorally engage on brand-related social media content. The results show that motivations with highly autonomous degree, namely enjoyment (integrated/intrinsic) and information acquisition (identified) significantly foster content consumption. In addition, our study finds that consumers are more willing to contribute and create brand-related content to satisfy their needs of altruism and information acquisition. By contrast, highly controlled motivation as economic incentives, is found to less stimulate consumers to engage on brand-related content. Likewise, self-presentation is not one of the most important motivations for content contribution and content creation. Despite being highly autonomous motivation, enjoyment has minor effect on content creation and has no effect on content contribution. As explained above, consumers can achieve the state of enjoyment only when they receive responses from other people while contributing to and creating brand-related content. Overall, our study aligns with the perspectives of OIT, suggesting that the more autonomous

the motivations are, the stronger effect they have on consumer behavioral engagement.

Interestingly, this study provides more insights into literature on consumer behavioral engagement on brand-related social media content by considering the moderating role of consumer-based characteristics such as personality. The results of our datasets show that although consumers with different personality types (thinkers vs. feelers) engage on brand-related content due to similar motivations, they perceive the importance of each motivation differently. Particularly, thinkers are more driven to behaviorally engage on brand-related content by information acquisition and economic incentives. This is because thinkers are more rational and impersonal (Corcoran 2015); therefore, they expect to gain self-benefits from their engagement activities. By contrast, feelers are mostly driven by enjoyment for content consumption and altruism for content contribution and content creation. Our finding aligns with the characteristics of feelers who are more emotionally and prosocially oriented (Corcoran 2015; Venkatraman and MacInnis 1985).

5.2. Theoretical contributions

Our research significantly advances the understanding of consumer engagement in different manners. Firstly, we shed light on adopting the perspectives of OIT to identify the most important drivers for three levels of behavioral engagement on branded content. Specifically, this study addresses different types of motivation with different autonomous/controlled degrees, rather than solely adopting extrinsic/intrinsic classification as previous studies (e.g., Kim and Drumwright 2016; Poch and Martin 2015; Yesiloglu, Memery, and Chapleo 2021). Our findings support the OIT in terms of emphasizing the predominant role of autonomous motivations in fostering consumers' content consumption (enjoyment and information acquisition) and content contribution and content creation (altruism and information acquisition). It is noted that while extrinsic motivations are understated in some research (e.g., Kim and Drumwright 2016), our study shows that extrinsic motivation with high degree of autonomy (i.e., information acquisition) dramatically stimulates consumer behavioral engagement. By doing so, our study not only addresses the inconsistent findings of previous studies but also extends the OIT to consumer behavioral engagement literature. Moreover, our study advances the existing knowledge of engagement motivation by showing that consumers with different personality types are primarily driven by different types of motivation. Our findings evidence the appropriateness of using thinking-feeling dichotomy drawn on MBTI to predict different patterns of consumer behavioral engagement, apart from Big Five model.

5.3. Managerial implications

The findings of this study, which indicate the prominent motivations for each engagement behavior, can offer valuable implications for practitioners. By well understanding why consumers consume, contribute, and create band-related content on SNSs, marketers and brands could build an effective marketing strategy. In addition, our findings regarding differences in engagement motives between thinkers and feelers can serve as a benchmark for online consumer segmentation, allowing marketers to create different types of content for each targeted group. As a result, consumers who have already achieved their engagement goals would autonomously maintain their behaviors and potentially become brand advocates.

This study finds that consumers, especially thinkers, mostly engage on brand-related social media content for information acquisition. Therefore, marketers should provide more informative content with relevant topics to help them learn more about products as well as facilitate their buying decision. By contrast, feelers' content consumption is more driven by enjoyment, thus the usage of hedonic content such as jokes, storytelling, or social events is more effective to entertain them. In addition, our study shows that feelers purposely contribute and create brand-related content for altruism. Therefore, marketers should target this group for online marketing campaigns related to call for action. For example, marketers can encourage feelers to leave comments under brand's posts to share their product experiences so that other consumers can learn from. Our study also finds that economic incentives less stimulate consumer behavioral engagement, thus marketers should avoid solely using promoted content. Instead, it should be combined with other motivations in an online marketing campaign. For example, marketers can encourage consumers to share promoted content with their friends so that all of them can get coupon codes or gift cards. In this way, their sharing behavior brings financial rewards not only to themselves but also to other people.

Finally, the presence of social connection and interaction also facilitates consumers to achieve some engagement motives such as enjoyment and self-presentation. Receiving brand's and other users' responses can encourage consumers' enduring engagement behaviors. Marketers should take advantages of social media in term of offering a great place for creating and managing brand communities where consumers can freely contribute and create content to show their experiences, exchange information, and

provide supports to other members. Harley David-son is perceived as a great and interesting lesson of building and nurturing a community (Harley Owners Group) around its brand and products (Francis-Cox 2019). A strong brand community can make members feel valued and joyful, which drives up their engagement activities regarding frequency and quality.

5.4. Limitations and directions for future research

Our research also comes with some drawbacks that should be considered by future studies. In this study, we focus on five motivations that promote positive engagement with brand-related content on SNSs. That is, our findings may not draw the entire picture about this stream of research. Therefore, future studies can complement our work by addressing other relevant motivations in relation to positively and negatively valenced engagement behaviors. Another limitation could derive from sampling. Particularly, our research collects data from social media users in general, while each social media platform has distinctive affordances which may lead to differences in their motives for brand-related content engagement. Future

research could extend and compare our findings by taking into account different types of SNSs. In addition, our study targets at Vietnamese SNS users; therefore, it can limit the generalizability of our research findings. For instance, Vietnamese respondents live in collectivist culture, and thus their behaviors (e.g., engagement behavior) are more social-oriented. To this extent, altruism and self-presentation could play predominant roles in stimulating their behavioral engagement on brand-related social media content. By contrast, people in individualist culture might engage on brand-related content to preferentially satisfy their self needs such as economic incentives, information acquisition, and enjoyment. Finally, our study has not yet examined the potential effects of product categories and content-based characteristics on consumers' engagement behaviors. For example, creating content related to high-end products can help enhance self-presentation. Therefore, we call for further exploration of these areas.

Conflict of interest

The authors declare that there is no conflict of interest.

Appendix A. Measures of constructs

Constructs	Measurement items	Sources
Economic incentives	EI1: I want to get a reward (e.g., free product and coupons). EI2: I want to get points on my membership card. EI3: I want to get a discount on my next purchase.	Hennig-Thurau et al. (2004), Yesiloglu, Memery, and Chapleo (2021)
Self-presentation	SP1: I want to create a good impression about myself. SP2: I want to gain others' attention/recognition from my friends/followers. SP3: I think that it makes my friends/followers have positive attitude towards me.	Hennig-Thurau et al. (2004), Lee, Lee, and Quilliam (2019), Swani and Labrecque (2020)
Information acquisition	IA1: I want to get useful information/advice to support my purchase decision. IA2: I want to update my knowledge about the product/brand. IA3: I want to get information for future use.	Hennig-Thurau et al. (2004), Qin (2020), Yesiloglu, Memery, and Chapleo (2021)
Altruism	AL1: I want to help others find a great product. AL2: I want to help others with advice. AL3: I want to point out a good offer to others. AL4: I want to share information that may be useful for others.	Hennig-Thurau et al. (2004), Oliveira, Araujo, and Tam (2020)
Enjoyment	ENJ1: It is enjoyable/pleasant. ENJ2: I have fun when I engage on it. ENJ3: It makes me happy.	Hennig-Thurau et al. (2004), Yesiloglu, Memery, and Chapleo (2021)
Consumption	CS1: I read posts related to Brand X on SNSs. CS2: I watch pictures/graphics related to Brand X on SNSs. CS3: I follow Brand X on SNSs. CS4: I browse more posts related to Brand X on SNSs.	Schivinski, Christodoulides, and Dabrowski (2016)
Contribution	CT1: I comment on posts (e.g., text, videos, pictures, or stories) related to Brand X on SNSs. CT2: I share posts related to Brand X on my own SNS. CT3: I like posts (e.g., text, videos, pictures, or stories) related to Brand X on SNSs.	Schivinski, Christodoulides, and Dabrowski (2016)
Creation	CR1: I initiate post content related to Brand X on SNSs. CR2: I write reviews/evaluations related to Brand X on SNSs. CR3: I upload videos/pictures/graphics related to Brand X on SNSs.	Schivinski, Christodoulides, and Dabrowski (2016)
Personality	Which word in each pair appeals to you more? PER1: A person of real feeling or a consistently reasonable person. PER2: Foresight or compassion. PER3: Analyze or sympathize. PER4: Thinking or feeling. PER5: Firm or gentle.	Changchit, Cutshall, and Pham (2022)

Appendix B. Kruskal-Willis tests and Dunn's post-hoc tests

1. Results of Independent-samples Kruskal-Wallis tests for three datasets

Dataset of consumption

Total n	15000
Test statistic	4040.190[a]
Degree of freedom	2
Asymptotic sig. (2-sided test)	.000***

Dataset of contribution

Total n	20000
Test statistic	9407.227[a]
Degree of freedom	3
Asymptotic sig. (2-sided test)	.000***

Dataset of creation

Total n	25000
Test statistic	9720.002[a]
Degree of freedom	4
Asymptotic sig. (2-sided test)	.000***

Note: [a]The test statistic is adjusted for ties, ***$p < 0.001$.

2. Pairwise comparisons of the effect sizes of proposed motivations on engagement behaviors (Dunn's post-hoc tests)

Sample 1 – Sample 2	Test statistic	Std. error	Std. test statistic	Sig.	Adj. sig.[a]
Dataset of consumption					
Economic incentives - Information acquisition	−3654.417	86.605	−42.197	.000***	.000***
Economic incentives - Enjoyment	−5392.478	86.605	−62.265	.000***	.000***
Information acquisition - Enjoyment	−1738.062	86.605	−20.069	.000***	.000***
Dataset of contribution					
Economic incentives - Self-presentation	−3937.792	115.472	−34.102	.000***	.000***
Economic incentives - Information acquisition	−6264.704	115.472	−54.253	.000***	.000***
Economic incentives - Altruism	−10942.801	115.472	−94.766	.000***	.000***
Self-presentation - Information acquisition	−2326.913	115.472	−20.151	.000***	.000***
Self-presentation - Altruism	−7005.009	115.472	−60.664	.000***	.000***
Information acquisition - Altruism	−4678.097	115.472	−40.513	.000***	.000***
Dataset of creation					
Economic incentives - Enjoyment	−1169.542	144.339	−8.103	.000***	.000***
Economic incentives - Self-presentation	−4798.295	144.339	−33.243	.000***	.000***
Economic incentives - Altruism	−6698.668	144.339	−46.409	.000***	.000***
Economic incentives - Information acquisition	−12659.965	144.339	−87.710	.000***	.000***
Enjoyment - Self-presentation	−3628.753	144.339	−25.140	.000***	.000***
Enjoyment - Altruism	−5529.127	144.339	−38.306	.000***	.000***
Enjoyment - Information acquisition	−11490.423	144.339	−79.607	.000***	.000***
Self-presentation - Altruism	−1900.373	144.339	−13.166	.000***	.000***
Self-presentation - Information acquisition	−7861.669	144.339	−54.467	.000***	.000***
Altruism - Information acquisition	−5961.296	144.339	−41.301	.000***	.000***

Note: Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed, ***$p < 0.001$.
[a]Significance values have been adjusted by the Bonferroni correction for multiple tests.

Appendix C. Kruskal-Willis tests and Dunn's post-hoc tests for multi-group analysis (thinkers vs. feelers)

1. Results of Independent-samples Kruskal-Wallis tests for three datasets (thinkers)

Dataset of consumption	
Total n	15000
Test statistic	485.213[a]
Degree of freedom	2
Asymptotic sig. (2-sided test)	.000***
Dataset of contribution	
Total n	20000
Test statistic	7875.235[a]
Degree of freedom	3
Asymptotic sig. (2-sided test)	.000***
Dataset of creation	
Total n	25000
Test statistic	8202.717[a]
Degree of freedom	4
Asymptotic sig. (2-sided test)	.000***

Note: [a]The test statistic is adjusted for ties, ***$p < 0.001$.

2. Pairwise comparisons of the effect sizes of proposed motivations on thinkers' engagement behaviors (Dunn's post-hoc tests)

Sample 1 – Sample 2	Test statistic	Std. error	Std. test statistic	Sig.	Adj. sig.[a]
Dataset of consumption					
Economic incentives - Enjoyment	−99.524	86.605	−1.149	.250	.751
Economic incentives - Information acquisition	−1699.627	86.605	−19.625	.000***	.000***
Enjoyment - Information acquisition	−1600.103	86.605	−18.476	.000***	.000***
Dataset of contribution					
Self-presentation - Altruism	−4216.682	115.472	−36.517	.000***	.000***
Self-presentation - Economic incentives	−7975.071	115.472	−69.065	.000***	.000***
Self-presentation - Information acquisition	−9313.376	115.472	−80.655	.000***	.000***
Altruism - Economic incentives	−3758.388	115.472	−32.548	.000***	.000***
Altruism - Information acquisition	−5096.694	115.472	−44.138	.000***	.000***
Economic incentives - Information acquisition	−1338.306	115.472	−11.590	.000***	.000***
Dataset of creation					
Altruism - Enjoyment	−1192.404	144.340	−8.261	.000***	.000***
Altruism - Self-presentation	−3394.837	144.340	−23.520	.000***	.000***
Altruism - Economic incentives	−5747.285	144.340	−39.818	.000***	.000***
Altruism - Information acquisition	−11678.285	144.340	−80.908	.000***	.000***
Enjoyment - Self-presentation	−2202.433	144.340	−15.259	.000***	.000***
Enjoyment - Economic incentives	−4554.881	144.340	−31.557	.000***	.000***
Enjoyment - Information acquisition	−10485.881	144.340	−72.647	.000***	.000***
Self-presentation - Economic incentives	−2352.447	144.340	−16.298	.000***	.000***
Self-presentation - Information acquisition	−8283.448	144.340	−57.389	.000***	.000***
Economic incentives - Information acquisition	−5931.000	144.340	−41.091	.000***	.000***

Note: Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed, ***$p < 0.001$.
[a]Significance values have been adjusted by the Bonferroni correction for multiple tests.

3. Results of Independent-samples Kruskal-Wallis tests for three datasets (feelers)

Dataset of consumption	
Total n	15000
Test statistic	9243.373[a]
Degree of freedom	2
Asymptotic sig. (2-sided test)	.000***

Dataset of contribution	
Total n	20000
Test statistic	8933.298[a]
Degree of freedom	3
Asymptotic sig. (2-sided test)	.000***

Dataset of creation	
Total n	25000
Test statistic	10098.761[a]
Degree of freedom	4
Asymptotic sig. (2-sided test)	.000***

Note: [a]The test statistic is adjusted for ties, ***$p < 0.001$.

4. Pairwise comparisons of the effect sizes of proposed motivations on feelers' engagement behaviors (Dunn's post-hoc tests)

Sample 1 – Sample 2	Test statistic	Std. error	Std. test statistic	Sig.	Adj. sig.[a]
Dataset of consumption					
Economic incentives - Information acquisition	−1360.666	86.605	−15.711	.000***	.000***
Economic incentives - Enjoyment	−7794.325	86.605	−89.998	.000***	.000***
Information acquisition - Enjoyment	−6433.659	86.605	−74.287	.000***	.000***
Dataset of contribution					
Economic incentives - Information acquisition	−660.092	115.472	−5.716	.000***	.000***
Economic incentives - Self-presentation	−6606.494	115.472	−57.213	.000***	.000***
Economic incentives - Altruism	−9063.220	115.472	−78.488	.000***	.000***
Information acquisition - Self-presentation	−5946.402	115.472	−51.496	.000***	.000***
Information acquisition - Altruism	−8403.128	115.472	−72.772	.000***	.000***
Self-presentation - Altruism	−2456.726	115.472	−21.275	.000***	.000***
Dataset of creation					
Economic incentives - Enjoyment	−468.573	144.340	−3.246	.001**	.012*
Economic incentives - Self-presentation	−5856.450	144.340	−40.574	.000***	.000***
Economic incentives - Information acquisition	−9199.232	144.340	−63.733	.000***	.000***
Economic incentives - Altruism	−11489.103	144.340	−79.598	.000***	.000***
Enjoyment - Self-presentation	−5387.877	144.340	−37.328	.000***	.000***
Enjoyment - Information acquisition	−8730.659	144.340	−60.487	.000***	.000***
Enjoyment - Altruism	−11020.530	144.340	−76.351	.000***	.000***
Self-presentation - Information acquisition	−3342.782	144.340	−23.159	.000***	.000***
Self-presentation - Altruism	−5632.653	144.340	−39.024	.000***	.000***
Information acquisition - Altruism	−2289.871	144.340	−15.864	.000***	.000***

Note: Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed,*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
[a]Significance values have been adjusted by the Bonferroni correction for multiple tests.

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