# Understanding the role of social media content in brand loyalty: A meta-analysis of user-generated content vs. firm-generated content

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**Abstract**

The enormous growth of social media has increased interest in this platform among marketers and marketing academics. However, the previous literature on this has not provided a clear consensus regarding the influence of social media content on consumers' brand loyalty. The meta-analysis presented here integrates results from 223 independent samples, with a total of 97,709 respondents. The study synthesizes previous research to develop a conceptual framework around the dimensions of brand loyalty (cognitive, affective, and conative loyalty), user-generated and firm-generated social media content attributes, and the moderating effects of contextual characteristics and control variables. Selected content attributes (information quality, information credibility, information usefulness, positive emotions, interactivity, and self-congruity) emerged as triggers in social media for dimensions of brand loyalty. Specifically, we show that the impact of the attributes on the brand loyalty dimension is stronger for FGC than for UGC for most of the relationships. The results indicate that these effects are dependent on contextual characteristics (e.g., low-involvement vs. high-involvement, hedonic vs. utilitarian, nondurable vs. durable, Human Development Index, and social media platform). Based on these findings, the contributions to theory and managerial implications are discussed, and future research directions are developed.

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# Introduction

Today, 4.2 billion people use social media worldwide (Statista, 2022). The COVID-19 pandemic has accelerated this growth, with over 50% of US adults stating that their social media use has increased during the crisis (eMarketer, 2020). Against this backdrop, marketers and scholars recognize that this evolution has made social media one of consumers' main information sources; therefore, it has affected consumer behavior (Erkan & Evans, 2016; Hamilton et al., 2016; Lemon & Verhoef, 2016). Because consumers no longer rely solely on information generated by companies, social media activities have become an essential part of a company's marketing strategy. Consumers can share their opinions and experiences in real time via their social networks, which has caused companies to face novel challenges (Grewal et al., 2017; Hudson et al., 2016; Piotrowicz & Cuthbertson, 2014; Rapp et al., 2013). However, reaching shoppers has become easier for companies through social media. Direct interactions with consumers, as well as the passive monitoring of customer-to-customer discussions, may reveal shoppers' hidden preferences (Villanova et al., 2021).

Several empirical studies have established the role of social media content in consumers' decision-making processes and in brand loyalty, and they have provided insights into the factors influencing content from diverse angles across marketing and information systems research (Alalwan et al., 2017; Alves et al., 2016). We have identified previous meta-analysis on social media marketing. Unlike this study, these meta-analysis focus on social media engagement (De Oliveira Santini et al., 2020; Liadeli et al. 2023). However, these studies do not address the impact of information source. This meta-analysis aims to address the gaps identified in previous research: (1) we present a conceptual framework linking brand loyalty and the attributes of user-generated content (UGC) and firm-generated content (FGC) (Alalwan et al., 2017), (2) we empirically test the drivers and consequences of brand loyalty in social media and compare the effectiveness of UGC

and FGC attributes (Xie & Lee, 2015). and (3) we clarify the effectiveness of UGC and FGC attributes in different conditions (Li et al., 2021).

First, while previous research streams have focused on brand loyalty from various viewpoints, there is no unified meta-analytical framework for which factors most heavily influence it (Alalwan et al., 2017). The need to specify the role of retailer-to-consumer and consumer-to-consumer interactions in shopping behavior is widely recognized in marketing literature (Grewal et al., 2022). Thus, this meta-analysis synthesizes the literature presenting the perspectives of UGC and FGC attributes influencing brand loyalty.

Second, companies recognize social media's potential to familiarize consumers with their brands and leave an impression on consumers' memories. While FGC helps retailers reach relevant consumers, consumer-to-consumer communications have been shown to have positive effects on consumers' brand evaluations (Barreda et al., 2020; Wang et al., 2019). Prior research has highlighted the essential role of brands in social media context. Positive reactions on social media facilitate consumers' positive brand evaluations (Alves et al., 2016; Arli, 2017; Dwivedi et al., 2019). Thus, this meta-analysis empirically tests the relationships between the dimensions of brand loyalty, and UGC and FGC attributes. This meta-analysis clarifies the impact of different information sources by comparing the effects of content attributes across UGC and FGC. Because previous studies are not unanimous regarding to the persuasiveness of information sources (Colicev et al., 2019; Goh et al., 2013; Stubb & Colliander, 2019), this meta-analysis resolves the mixed findings of previous research regarding to the effectiveness of UGC and FGC attributes. This helps in weighting the relative importance of UGC and FGC attributes.

Third, this meta-analysis extends previous research by addressing the impact of different moderating effects according to the suggestions of recent studies (Li et al., 2021). Therefore, this meta-analysis addresses the efficiency of social media content across different product and shopping contexts. While previous studies have shown that possible contextual moderators may

influence the relationships of our framework (Iankova et al., 2019; Poulis et al., 2019; Stubb & Colliander, 2019), the literature remains unclear about the influences of contextual characteristics (e.g., product value, product involvement, product durability, social media platforms, and the Human Development Index [HDI]). The varied contexts of previous studies have led to difficulties in generalizing the existing findings across these contexts, but the meta-analytical method offers the opportunity to examine the role of these elements. To the best of the authors' knowledge, our meta-analysis is the first to address the issues of generalizability across these contexts by integrating the findings of previous research and investigating moderators related to the contextual characteristics of studies. Consequently, this meta-analysis provides valuable information for managers by comparing the effects across different contexts.

In summary, our conceptual framework illustrates the impact of both UGC and FGC attributes on dimensions of brand loyalty. Beyond these main effects, our framework addresses their impacts through the moderating effects across aspects of the contextual characteristics. Finally, from a methodological viewpoint, we examined the influence of the control variables on these relationships and evaluated the role of methodological decisions on the study results.

This article is organized as follows. We begin by presenting the conceptual framework of this study. We then describe the methodological procedures used to test the framework and present the meta-analytical findings, such as the direct effects, results of structural equation modeling (SEM), and moderator analysis. Finally, theoretical and managerial insights and future research directions are discussed.

## The Conceptual Framework

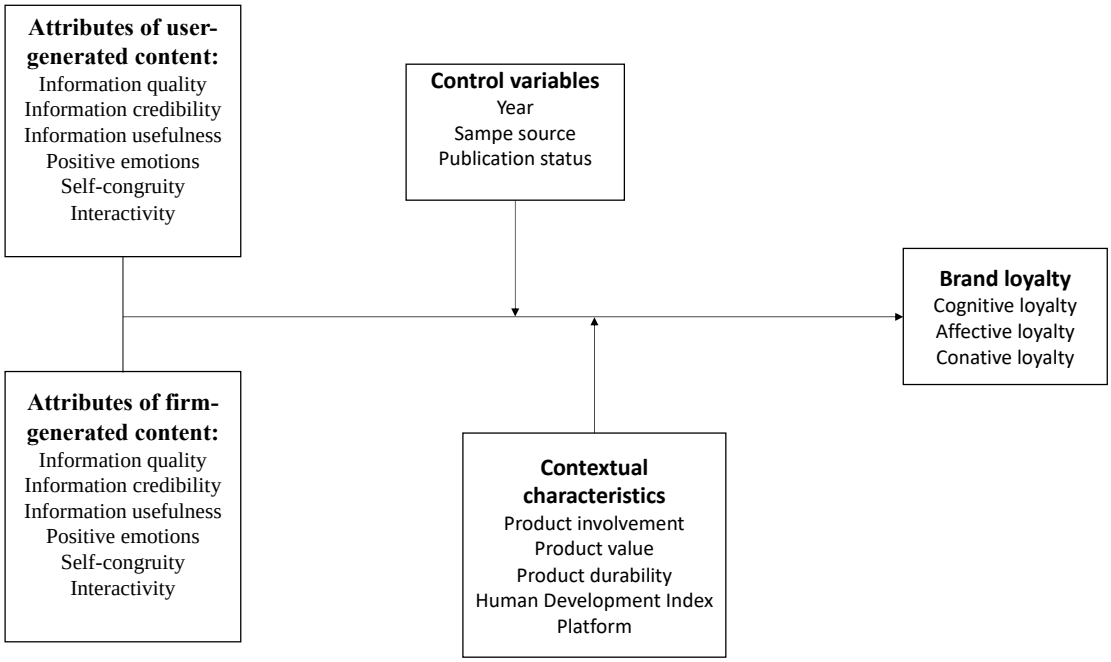


Fig. 1 The Meta-analytic Framework

***UGC vs. FGC***

Previous studies have considered social media from the perspectives of UGC and FGC. While UGC illustrates the "wisdom of the crowd," which is mostly out of companies' control, FGC represents firm-managed marketing communications (Colicev et al., 2019; Piotrowicz &Cuthbertson, 2014). In previous research, both information sources (i.e. UGC and FGC) have been shown to work as predictors of brand loyalty (Arli, 2017; Colicev et al., 2019). However, few studies have addressed the differences between these sources. Meta-analysis offers suitable tools for considering these two perspectives; therefore, we built our framework around these two constructs of UGC and FGC.

Existing studies comparing UGC and FGC have presented contradictory results regarding their effects on brand loyalty (Colicev et al., 2019; Goh et al., 2013; Stubb & Colliander, 2019). A plausible reason for this may be the differing mechanisms of the persuasiveness of the information sources influencing consumers' decision-making process. As FGC is designed to influence

consumers' brand perceptions and consequently includes information that increases consumers knowledge of a brand, it can be argued that FGC has a stronger impact on sales than UGC (Stephen & Galak, 2012). On the other hand, consumers recognize that UGC is independent from companies and can view it as more credible. Thus, UGC can be seen as more influential as a result of its higher credibility (Colicev et al., 2019; Stubb & Colliander, 2019; Xie & Lee, 2015). Because these distinctions between the sources are still theoretically unknown, it is worth investigating the topic from the UGC and FGC perspectives. Thus, we address the attributes of both information sources in our conceptual model (see Fig. 1) and provide valuable information that will help managers understand the consequences of social media content, design their FGC, and recognize the power of UGC.

### *Brand Loyalty*

*Brand loyalty* refers to "a deeply held psychological commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Oliver, 1999, p. 34). We follow the logic of Oliver (1999) and operationalize brand loyalty through its three dimensions (cognitive, affective, and conative loyalty).

#### *Cognitive Brand Loyalty*

*Cognitive brand loyalty* means loyalty that is based on information about the brand (such as the price and features) (Oliver, 1999). Consequently, as consumers are aware of brands, they are able to identify a brand within a category at the point of purchase and have brand recall before a purchase (Chung et al., 2013; Percy & Rossiter, 1992). Companies can influence cognitive loyalty via marketing communication, which helps consumers with product evaluation and decision-making (Buil et al., 2013; Rubio et al., 2014). On social media, consumers face a vast amount of

both UGC and FGC, making it essential (from a managerial perspective) to recognize what kind of content increases cognitive loyalty.

*Affective Brand Loyalty*

*Affective brand loyalty* refers to liking a brand (Oliver, 1999). On the attitudinal level, prior research has found that both UGC and FGC attributes influence affective loyalty (Chakraborty & Bat, 2018; Colicev et al., 2019; Gvili & Levy, 2016). It has been shown that consumers' brand-related experiences on social media are linked to affective loyalty. Social media communications can strengthen consumers' relationships with a brand; therefore, firms should encourage their customers to communicate with other social media users (Wang et al., 2019). Content persuasiveness plays a critical role in affective loyalty formation. UGC and FGC can be seen as persuasive for diverse reasons. When UGC represents a neutral information source, the level of expertise of FGC is higher (Colicev et al., 2019).

*Conative Brand Loyalty*

*Conative brand loyalty* refers to loyalty to an intention to buy a product (Oliver, 1999). In previous research, both UGC and FGC attributes have been shown to work as predictors of brand loyalty (Arli, 2017; Colicev et al., 2019). However, only a few studies have addressed the differences between these information sources. Again, the contradictory findings of these studies seem to be related to the level of persuasiveness of the information sources (Colicev et al., 2019; Stubb & Colliander, 2019).

***The Attributes of Social Media Content***

*Information Quality*

*Information quality* refers to the characteristics of information that satisfy consumers' expectations, and it plays an important role in information persuasiveness and the consumer's decision-making processes (Filieri & McLeay, 2014; Kahn et al., 2002; Tsao & Hsieh, 2015). Consumers now have easy access to vast purchase-related information, which creates a need to

evaluate information before using it (Erkan & Evans, 2016; Rose & Samouel, 2009). All social media users are able to generate information on social media, which makes the role of information characteristics critical. If information satisfies their needs, consumers search for products and services more eagerly (Olshavsky, 1985; Xu, 2014). Consequently, the theory suggest that information quality positively affects brand loyalty. As FGC is specifically designed to inform consumers about product features, it can be assumed that the impact of information quality on brand loyalty, especially in the cognitive dimension, is stronger than UGC's impact.

*Information Credibility*

*Information credibility* is the initial factor in the persuasion process of online context. It refers to a consumer's perception of the trustworthiness of information, which results from the information source, the receiver, and the message's characteristics (Castillo et al., 2013; Kim et al., 2016; Wathen & Burkell, 2002). According to source credibility theory, messages from expert and trustworthy sources have a stronger impact on consumer attitudes than sources with lower credibility (Petty & Cacioppo, 1986). Colivev et al. (2019) stated that source credibility plays a key role in the persuasiveness of UGC and FGC. The more credible the source of UGC and FGC is, the stronger the effects of the content on consumers' minds. Consequently, we expect that information credibility will have a positive impact on brand loyalty.

*Information Usefulness*

*Information usefulness* indicates consumers' perceptions that information will enhance their performance (Bailey & Pearson, 1983). Due to social media information overload, we highlight the relevance of information usefulness from a decision-making perspective. If the information does not fit a consumer's needs, it is bypassed (Sasaki et al., 2016). Otherwise, it strongly increases the persuasiveness of the content (Teng et al., 2014). Thus, we expect that information usefulness has a positive effect on brand loyalty. While FGC is designed to provide relevant brand-related information, UGC is varied and often not relevant from a decision-making perspective. Due to this

irrelevant information, consumers bypass content (Sasaki et al., 2016). Consequently, this may make information usefulness a more important predictor of brand loyalty for UGC.

*Positive Emotions*

*Positive emotions* refers to consumers' states of mind, resulting from the cognitive and affective evaluations of their consumption (Bagozzi et al., 1999). Positive emotions create positive expectations of consumers' shopping outcomes and may result in shopping actions. An emotional connection with a company may directly influence a consumer's buying behavior and may also indirectly influence it via information persuasiveness, which will consequently increase purchases (Hasford et al., 2015; Pansari & Kumar, 2017). Recent marketing research has highlighted the importance of emotional connections with brands in the social media context, showing that affection in social media results in consumers' forming self-brand connections (Hollebeek et al., 2014). The emotional perspective of social media shopping is essential because it challenges theories driven by technological features and provides a different approach to the topic. Social media research frequently focuses on technological perspectives. Therefore, it is relevant to specify the position of emotions in comparison with technology-driven theories.

*Entertainment, enjoyment,* and *arousal* refer to emotional states that influence consumers' attitudes and behaviors (Coker, 2020; Lee et al., 2012; Shareef et al., 2019). Consequently, we adopted these three components to represent consumers' positive emotions on social media. As academics have recognized the important role the of emotions related to social media content (both UGC and FGC) in the generation of brand loyalty (Hollebeek et al., 2014; Yoshida et al., 2018), we expect that positive emotions evoked by both UGC and FGC will have a positive impact on brand loyalty.

*Self-congruity*

*Self-congruity* refers to a similarity or congruence between a consumer's self-image and the image of the information source (Sirgy, 1982). According to self-congruity theory, consumers

choose products and brands that fit their self-images (Stern et al., 1977). Self-congruity is shown to influence consumers' attitudes toward an information source and, consequently, their decision-making (Choi & Rifon, 2012). In previous studies, self-congruence with an information source is positively associated with brand loyalty for both UGC and FGC (Magno, 2017; Zhang and Mao, 2016). Thus, we argue that self-congruity with an information source facilitates locating information that the consumer perceives as relevant. We expect that self-congruity related to the information sources of UGC and FGC is positively related to brand loyalty.

*Interactivity*

*Interactivity* refers to real-time communication with other consumers. Thus, different retailing channels can display different levels of interactivity (Fortin & Dholakia, 2005). Social media platforms are highly interactive, making them an alternative communication tool for managing discussions with consumers and customer services (Gautam & Sharma, 2017). Previous research has highlighted the focal role of the social media interactivity of both UGC and FGC in creating brand loyalty (Alalwan, 2018; Hollebeek et al., 2014). Thus, we expect that the interactivity of UGC and FGC is positively linked to brand loyalty.

***Contextual Moderators***

*Product Value*

Products can be characterized in terms of value. Hedonic products provide enjoyable experiences, whereas utilitarian products are functional in nature (Dhar & Wertenbroch, 2000; Hirschman & Holbrook, 1982). It has been shown that perceived risk is more influential with utilitarian products than with hedonic products because the sacrifices (i.e., the time and effort spent on decision-making) for utilitarian products are higher (Chiu et al., 2014). Therefore, consumers' search intentions are stronger for utilitarian products than for hedonic products. The information search process for utilitarian products is often more goal oriented, but it is more explorative for

hedonic products (To et al., 2007). Thus, we explore how product value (i.e., hedonic and utilitarian value) moderates the effects of content attributes and brand loyalty.

*Product Involvement*

*Product involvement* refers to "an internal state variable that indicates the amount of arousal, interest, or drive evoked by a product class" (Dholakia, 2001, p. 1341). Consequently, product involvement reflects the perceived relevance of a specific product to the consumer. Higher involvement is related to a deeper information search and more time spent making decisions (Clarke & Belk,1978; Quester & Lim, 2003). We compare high- and low-involvement products to explore whether product involvement moderates the impact of content attributes on brand loyalty.

*Product Durability*

*Product durability* refers to the time period during which a product is consumed. While nondurable products are purchased more frequently and have a lifespan of less than three years, durable goods are more complex and infrequently purchased (Floyd et al., 2014; Grewal & Marmorstein, 1994). Therefore, the risk of durable products is higher, which leads to deeper information searches. A more active information search has been shown to reduce the risk related to purchases (You et al., 2015). Thus, we explore whether product durability moderates the effects of content attributes on brand loyalty.

*The HDI*

The HDI illustrates the level of a country's development by measuring, for example, health, knowledge, and the standard of living. Countries with a high HDI are developed countries, and countries with a low or medium HDI are emerging countries (United Nations, 2020). According to Sheth (2011), developed and emerging countries are different; therefore, marketers need to evaluate these countries from different perspectives. According to Bolton et al. (2013), social media usage differs based on the economic situation of consumers. For example, consumers in developed countries have higher trust in online retailers, which generates stronger behavioral responses

(Thompson & Liu, 2007), while consumers in emerging countries use social media less often than consumers in developed countries due to the former having less technology access (Pew Research Center, 2018). Consequently, we explore how HDI moderates the impact of content attributes on brand loyalty.

*Social Media Platforms*

Previous research has typically addressed social media in general or on one specific platform. Few studies have addressed the divergence of social media channels, and the differences between channels have yet to be widely explored (De Oliveira Santini et al., 2020). However, the characteristics of a channel are closely linked to its role in the purchasing process. This assumption is based on the results of prior studies that have shown that channels differ in terms of their functionalities; thus, different channels are used according to the stage of the purchasing process. Alves et al. (2016) indicated that of all the social media channels, Facebook and Twitter have the best performance in terms of improving consumers' brand attitudes. As per Smith et al. (2012), brands play a central role in Facebook discussions because the platform's features support sharing experiences with other consumers and firm-generated content. Consequently, we explore how a social media platform influences the impact of content attributes on brand loyalty.

***Controls***

Examining the moderating effects of control variables helps researchers evaluate the influence of the methodological and procedural choices of studies and their impact on outcomes (Lipsey, 2003). Therefore, we studied the influence of the sample source, publication status, geographical area, and the year of the included studies on focal relationships. We allocated the sample source to student and non-student samples. Student samples are usually more homogenous, resulting in a lower error variance in the measurement and stronger effect sizes (Geyskens et al., 2009). Publication status was categorized by studies being either published and unpublished. Published studies included articles published in scientific journals. Typically, significant effects are

likelier to be published (Hunter & Schmid, 2004). Finally, the influence of the publication year was assessed. Counterintuitive results are generally published sooner rather than later (Hunter & Schmidt, 2004). Due to the rapid evolution of the social media context and the extensive adoption of social media channels, the publication year is a valid moderator. For example, it can be assumed that the influence of technology-related attributes has decreased due to improvements in consumers' technological skills.

## Methods

### *Data Collection and Coding*

The first step in data collection was achieved by performing searches with various terms (such as "brand loyalty," "purchase intention," "buying intention," or "purchase behavior") and social media-related keywords (such as "social media," "Facebook," "Instagram," "YouTube," "Twitter," or "LinkedIn"). The literature search was performed using electronic databases, such as ABI/INFORM, Scopus, ProQuest Central, Emerald, EBSCO Business Source Premier, ProQuest Dissertations and Theses, and Google Scholar. In addition, we manually searched journals, leading academic congresses in marketing and information systems, and the reference lists of the collected studies. Both published and unpublished studies were included, and authors were contacted to request unpublished studies and missing data. The following inclusion criteria were set: the studies had to be empirical and quantitative, provide the information needed to calculate effect sizes and sample sizes, and measure brand loyalty (or its determinants) in the social media context. After excluding review papers, qualitative studies, and studies not reporting the required effect sizes or samples, our dataset was reduced to 220 articles published between 2010 and 2022 (Web Appendix A). In total, 729 effect sizes from 223 independent samples with 97,709 respondents from 40 countries[a] were included for further analysis.

Following Rust and Cooil (1994), the coders first discussed the coding classifications. The studies were coded according to the definitions and aliases presented in Web Appendix B and the

moderators were coded according to Web Appendix C. Most studies were dummy coded (except for the publication year), but not all studies could be coded for each moderator. Two independent coders were employed to code contextual moderators and control variables (with an agreement rate of over 90%). A third judge resolved disagreements between the coders.

***Effect Size Integration***

Pearson correlation coefficients (*r*) were used to represent the effect sizes because most of the studies in our dataset featured them. When correlation information was not available, other statistics were converted to correlations (Hunter & Schmitt, 2004). Studies that only reported regression coefficients were transformed into correlations according to the protocol of Peterson and Brown (2005). The effect sizes were corrected for measurement error by dividing correlations by the square root of the reliability of the variables (Hunter & Schmidt, 2004).[b] If this information was not available, the average reliability of the construct was used. The average correlations were calculated according to the random-effect approach. More specifically, reliability-adjusted correlations were weighted by sample sizes to adjust sampling error (Hunter & Schmidt, 2004).

We calculated 95% confidence intervals for these sample-weighted, reliability-adjusted correlations. We also used the chi-square test of homogeneity to test the effect size distribution. In addition, we tested the $I^2$, which indicates the variance in effect size distribution. These sample-weighted, reliability-adjusted correlations, 95% confidence intervals, and the results of chi-square tests and $I^2$ values are presented in Table 1.

To minimize publication bias, several approaches were used in both the data collection and analysis stages. The approaches follow:

1. We included unpublished studies (namely, unpublished conference papers and dissertations).
2. We used Rosenthal's (1979) protocol to test publication bias (see Appendix C). The fail-safe *N* (FSN) for each attribute was calculated to illustrate the number of studies with

null results that would decrease a relationship below a level of significance ($p < .05$). The results were considered robust if the FSN was greater than $5*k + 10$, where $k$ represents the number of effect sizes.

3. We tested the moderating effects on published and unpublished studies.
4. We used Egger's test to address the asymmetry in the funnel plot (see Table 1) (Sterne & Egger, 2005).[c]

***SEM***

To address the differences between the UGC and FGC models, multigroup analysis was conducted using SEM. Because our conceptual framework includes two separate information sources (i.e., UGC and FGC), we used two individual correlation matrices based on sample-weighted, reliability-adjusted correlations (Web Appendices E–F) with the harmonic mean of all sample sizes as the input for SPSS AMOS 26 ($N_{UGC}$ = 4760; $N_{FGC}$ = 2463). Using the harmonic mean results in more conservative SEM estimations than using the arithmetic mean (Viswesvaran & Ones, 1995). Variables with fewer than three correlations with all other variables were excluded.[d] Because single indicators represented constructs and measurement errors were considered in the mean effect size calculation, we followed the logic of Iyer et al. (2020) and set the error variances in the SEM to zero. As per Viswesvaran and Ones (1995), the maximum likelihood estimation method was used.

***Moderator Analysis***

The impact of moderators was assessed using random-effects meta-regression (Hunter & Schmidt, 2004). More specifically, reliability-corrected correlations were used as a dependent variable and regressed on moderator variables. The analysis was only run for relationships with at least 10 effect sizes available (Samaha et al., 2014). We calculated eight multilevel models—one for each attribute of UGC and FGC. We also included dummy-coded variables to represent the dimensions of brand loyalty.

# Results

## *Descriptive Statistics*

### *Direct Effects on Brand Loyalty*

Descriptive statistics are presented in Table 1 and Web Appendix D. All the calculated effect sizes for predictors of brand loyalty were significant ($p < .05$) except for the effect of interactivity on conative loyalty in the UGC sample. Our results indicate that information quality, information credibility, information usefulness, positive emotions, self-congruity, and interactivity strongly related to brand loyalty dimensions. Several differences between UGC and FGC were identified. As displayed in Table 1, most of reported effect sizes on brand loyalty dimensions are slightly stronger for the FGC than the UGC. Interestingly, the impact of information quality and information usefulness was stronger on conative loyalty and information usefulness on affective loyalty for the UGC. Thus, we obtain a preliminary indication of the differences between information sources and proceed to further test these effects in SEM using multigroup analysis.

The *Q*-tests of homogeneity and $I^2$ statistics indicate heterogeneity in the data for most of the addressed relationships and thus the need for moderator analysis. Per FNSs, the findings are robust to publication bias because the values exceed the criteria of Rosenthal (1979). The results of Egger's test indicate a symmetric funnel plot for most relationships, which in turn indicate that publication bias is unlikely (Sterne & Egger, 2005).

Table 1: The Descriptive Results and Correlations with Brand Loyalty Dimensions

| Content Attribute | Brand Loyalty dimension | Number of Raw Effects | Total *N* | Sample Weighted Reliability Adjusted *r* | $CI_{low}$ | $CI_{high}$ | *Q* | $I^2$ | FSN | Egger's Test (*t*-value) |
|---|---|---|---|---|---|---|---|---|---|---|
| **User-generated Content** | | | | | | | | | | |
| Information quality | Cognitive loyalty | 5 | 3,338 | .284** | .113 | .438 | 66.826 | 95.551 | 211 | - |
| Information credibility | Cognitive loyalty | 4 | 3,304 | .202** | .141 | .261 | 9.458 | 68.280 | 137 | - |
| Information usefulness | Cognitive loyalty | 3 | 2,300 | .308** | .258 | .357 | 3.405 | 41.263 | 176 | - |
| Positive emotions | Cognitive loyalty | 4 | 2,314 | .341** | .287 | .393 | 6.467 | 53.609 | 298 | - |
| Information quality | Affective loyalty | 22 | 8,760 | .510** | .413 | .595 | 627.556 | 96.972 | 3536 | .456 |
| Information credibility | Affective loyalty | 37 | 17,179 | .503** | .431 | .569 | 1056.751 | 97.066 | 13475 | 2.150 |
| Information usefulness | Affective loyalty | 6 | 3,375 | .474** | .210 | .674 | 378.044 | 98.667 | 148 | - |
| Positive emotions | Affective loyalty | 12 | 4,360 | .432** | .298 | .549 | 255.515 | 96.086 | 2339 | .518 |
| Information quality | Conative loyalty | 57 | 23,698 | .502** | .447 | .554 | 1729.062 | 96.761 | 14056 | 1.171 |
| Information credibility | Conative loyalty | 77 | 39,140 | .487** | .441 | .530 | 2200.984 | 96.774 | 16360 | .575 |
| Information usefulness | Conative loyalty | 14 | 15,377 | .584** | .492 | .663 | 480.117 | 97.501 | 2629 | .522 |

| Content Attribute | Brand Loyalty dimension | Number of Raw Effects | Total *N* | Sample Weighted Reliability Adjusted *r* | $CI_{low}$ | $CI_{high}$ | *Q* | $I^2$ | FSN | Egger's Test (*t*-value) |
|---|---|---|---|---|---|---|---|---|---|---|
| Positive emotions | Conative loyalty | 26 | 12,373 | .409** | .346 | .469 | 430.648 | 94.195 | 5109 | .443 |
| Self-congruity | Conative loyalty | 34 | 14,294 | .464** | .407 | .517 | 586.726 | 94.376 | 18593 | 1.067 |
| Interactivity | Conative loyalty | 4 | 1,177 | .352ns | -.019 | .638 | 131.446 | 97.718 | 0 | - |
| **Firm-generated Content** | | | | | | | | | | |
| Information quality | Cognitive loyalty | 8 | 2,731 | .463** | .304 | .597 | 85.305 | 94.139 | 710 | .332 |
| Information credibility | Cognitive loyalty | 4 | 1,439 | .500** | .284 | .668 | 73.009 | 95.891 | 468 | - |
| Information usefulness | Cognitive loyalty | 5 | 1,818 | .322** | .225 | .413 | 16.645 | 75.969 | 218 | - |
| Positive emotions | Cognitive loyalty | 6 | 1,965 | .374** | .262 | .475 | 8.695 | 76.998 | 126 | - |
| Information quality | Affective loyalty | 9 | 3,976 | .535** | .405 | .644 | 225.571 | 96.453 | 3212 | - |
| Information credibility | Affective loyalty | 13 | 4,473 | .504** | .389 | .603 | 132.305 | 93.953 | 2206 | .110 |
| Information usefulness | Affective loyalty | 8 | 3,109 | .400** | .220 | .554 | 67.388 | 95.548 | 348 | - |
| Positive emotions | Affective loyalty | 12 | 3,693 | .485** | .381 | .577 | 169.323 | 93.504 | 3150 | .678 |
| Information quality | Conative loyalty | 20 | 6,757 | .455** | .328 | .566 | 560.520 | 97.146 | 6072 | .237 |
| Information credibility | Conative loyalty | 23 | 7,889 | .541** | .445 | .625 | 389.071 | 95.888 | 8942 | .431 |
| Information usefulness | Conative loyalty | 9 | 3,652 | .553** | .404 | .673 | 225.715 | 96.899 | 2339 | .292 |
| Positive emotions | Conative loyalty | 29 | 9,733 | .498** | .417 | .572 | 617.738 | 95.791 | 7563 | .212 |
| Self-congruity | Conative loyalty | 5 | 2,094 | .508** | .350 | .638 | 80.445 | 95.028 | 818 | - |
| Interactivity | Conative loyalty | 23 | 8,847 | .575** | .476 | .660 | 931.302 | 97.638 | 9779 | 1.846 |

Notes: * $p < .05$; ** $p < .01$

### *The Results of the SEM*

To participate in the debate over the importance of information sources, we addressed these differences by forming separate models for UGG and FGC. We performed multi-group analysis to examine parameter estimate differences between UGC and FGC (see Table 2). The model fit was acceptable for both models ($\chi^2/df < 5$; GFI > .95, CFI > .95, SRMR < .08). For UGC, the model explained 8.1% of cognitive loyalty variance, 43.4% of affective loyalty, and 70.3% of conative loyalty. For FGC, the model explained 39.7% of cognitive loyalty, 56.5% of affective loyalty, and 60.6% of conative loyalty.

*Information Quality*

The results suggest that information quality is a key predictor of cognitive loyalty (FGC: $\beta$ = .274, $p < .01$; UGC: $\beta$ = .160, $p < .01$) and affective loyalty (FGC: $\beta$ = .242, $p < .01$; UGC: $\beta$ = .274, $p < .01$). The results of multigroup analysis indicate a significant difference regarding the impact of information quality on cognitive loyalty. Thus, the information quality of FGC seems to be a significantly stronger predictor of cognitive loyalty than that of UGC.

*Information Credibility*

Information credibility was identified as key trigger for the cognitive dimensions of brand loyalty (FGC: $\beta$ = .161, $p$ < .01; UGC: $\beta$ = -.051, $p$ < .01), the affective dimensions of brand loyalty (FGC: $\beta$ = .432, $p$ < .01; UGC: $\beta$ = .224, $p$ < .01), and the conative dimensions of brand loyalty (FGC: $\beta$ = .208, $p$ < .01; UGC: $\beta$ = .086, $p$ < .01). Multigroup analysis shows significant differences between FGC and UGC. For all dimensions, the importance of FGC was significantly higher. Therefore, information credibility is a key driver of brand loyalty, and it is especially important in the FGC context.

*Information Usefulness*

Our findings underscore the role of information usefulness as a key determinant of conative loyalty (FGC: $\beta$ = .263, $p$ < .01; UGC: $\beta$ = .412, $p$ < .01). Our results display a strong effect on brand loyalty in both the UGC and FGC models. Interestingly, the multigroup analysis results indicate that its importance is significantly higher for UGC. This underlines the fact that, due the information overload in social media, consumers effectively filter UGC. Therefore, usefulness is strongly linked to conative loyalty for UGC.

*Positive Emotions*

Positive emotions were identified as significant triggers of the affective dimensions (FGC: $\beta$ = .143, $p$ < .01; UGC: $\beta$ = .186, $p$ < .01) and the conative dimensions (FGC: $\beta$ = .127, $p$ < .01; UGC: $\beta$ = -.199, $p$ < .01). The multigroup analysis results indicate a significant difference regarding conative loyalty. Interestingly. the impact of positive emotions was negative on conative loyalty. Because this was contrary to the findings of previous research and the calculated effect sizes, we argue that these surprising negative effects might be explained by a suppression and multicollinearity issues in the database. Thus, further research should pay more attention to these determinants.

Table 2. The Results of Multigroup Analysis

| | **Firm-generated Content** | **User-generated Content** | **Model Differences** | |
|---|---|---|---|---|
| **Direct effects** | **Beta (β)** | **Beta (β)** | $\Delta\chi^2$ | ***p-value*** |
| Information quality: cognitive loyalty | .274** | .160** | 11.5 | >.001 |
| Information quality: affective loyalty | .242** | .271** | .9 | .770 |
| Information credibility: cognitive loyalty | .161** | -.051* | 37.7 | >.001 |
| Information credibility: affective loyalty | .432** | .244** | 39.6 | >.001 |
| Information credibility: conative loyalty | .208** | .086** | 18.5 | >.001 |
| Information usefulness: conative loyalty | .263** | .412** | 25.7 | >.001 |
| Positive emotions: affective loyalty | .143** | .186** | 2.2 | .516 |
| Positive emotions: conative loyalty | .127** | -.199** | 123.7 | >.001 |

Notes: ns = non-significant; ** $p < .01$; * $p < .05$; *p*-values related to model difference are based on the chi-square difference test; the insignificant relationships between information quality and conative loyalty, information usefulness and cognitive loyalty, information usefulness and affective loyalty, and positive emotions and cognitive loyalty were excluded from multigroup analysis.

### *The Results of the Moderator Analysis*

The objective of the moderator analysis was to explore the influence of contextual characteristics and the control variables. All moderator variables were dichotomized, with the exception of the publication year, which was measured as a continuous variable. Table 3 presents the results of the potential moderators of brand loyalty for UGC and FGC attributes.

Table 3: The Results of Moderator Analysis

| | | | **Moderator Coefficients** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Determinants of Brand Loyalty** | | | **Product involvement (high/ low)** | **Product value (hedonic/ utilitarian)** | **Product durability (nondurable / durable)** | **HDI (low/ high)** | **Platform (other/ Facebook)** | **Sample source (student / non-student)** | **Publication form (published / not published)** | **Year** | **Conative loyalty** | **Affective loyalty** | **Cognitive loyalty** | |
| | | k | β | β | β | β | β | β | β | β | β | β | β | $R^2$ |
| Information quality | UGC | 84 | **.287*** | .104 | -.068 | **.356*** | -.106 | **.445**** | -.009 | -.070 | **.269*** | **.410†** | **-.241†** | 45% |
| | FGC | 37 | — | -.077 | **-.300†** | **.416*** | — | **.686†** | — | -.020 | .036 | -.011 | .011 | 39% |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Information credibility | UGC | 118 | **.263†** | -.021 | .021 | **.417**** | .223 | .079 | **-.251†** | .018 | .139 | .192 | -.193 | 43% |
| | FGC | 40 | .019 | **-.342*** | **-.305*** | .213 | -.162 | .000 | -.305 | -.014 | .025 | -.295 | -.025 | 63% |
| Information usefulness | UGC | 23 | **.561†** | **-.303†** | .066 | — | **.493†** | .095 | — | .039 | .056 | -.566 | -.055 | 29% |
| | FGC | 22 | -.235 | — | **-.408*** | **.356†** | -.268 | — | — | -.016 | .250 | .006 | -.006 | 57% |
| Positive emotions | UGC | 42 | **.200*** | **-.407*** | .161 | **.352*** | -.212 | -.097 | — | **-.067†** | .243† | -.138 | -.009 | 41% |
| | FGC | 47 | -.069 | **-.224†** | **-.241*** | -.141 | -.132 | -.017 | — | -.009 | .176 | -.112 | .112 | 37% |

Notes: $k$ = the number of effect sizes; † $p < .1$; * $p < .05$; ** $p < .01$; FGC results appear in parentheses; an em-dash, "—,'' indicates the moderator could not be tested due to the low number of effect sizes. The results regarding to information usefulness might be relatively unstable in a result of low number of effect sizes.

### *Contextual Characteristics*

*Product Involvement*

Our results confirm the moderating effects of product involvement. We found support that several attributes are more important for low-involvement products. If involvement is low, information quality, information credibility, information usefulness, and positive emotions gain importance for UGC samples. Interestingly, we did not find a similar impact for FGC attributes. We argue that consumers prefer alternative information sources than social media discussions for a high-involvement information search. Because social media browsing is mainly passive and explorative, consumers are willing to use less effort to "digest'' social media content if product risk is low. On the other hand, they adopt the central route to elaborate arguments in high-involvement cases. Thus, the impact of persuasiveness is lower for high-involvement products.

*Product value*

We find support for the moderating effects of product value. Our results indicate the stronger effects of several content attributes on brand loyalty for hedonic products. The impact of information credibility and positive emotions was stronger in the FGC sample. For the UGC sample, information usefulness and positive emotions gained relevance in hedonic product categories. We argue that because consumers' searching intentions are higher for utilitarian products, social media content offers information that can be used for explorative (e.g., hedonic) decision-making (To et al., 2007). Thus, the importance of content persuasiveness is higher for hedonic products in social media.

*Product Durability*

We find that FGC attributes have stronger effects on brand loyalty for nondurable products. More specifically, the impact of information quality, information credibility, information usefulness, and positive emotions was stronger for nondurable products. Interestingly, we did not detect similar effects for UGC attributes. We argue that because consumers are feeling higher uncertainty towards durable products, they tend to filter commercial social media content. Thus, the importance of persuasiveness is higher for the explorative decision-making that is associated with nondurable products.

*The HDI*

We found that several attributes of UGC and FGC are more influential in highly developed countries. Information quality, information credibility, and positive emotions gained relevance in high-HDI countries for the UGC sample. For the FGC sample, the impact of information quality and information usefulness was stronger among high-HDI countries. Thus, we argue that the higher popularity of social media usage in developed countries resulted in stronger reactions to content.

*Social media platforms*

In exploring the impact of the social media platform, we find that the effects of information usefulness on brand loyalty are significantly stronger for Facebook compared with other platforms for UGC attributes. No moderation effects were found for other paths.

***Controls***

When examining the impact of the control variables, we found little evidence for systematic differences across different moderators. The impact of information quality was stronger among non-student samples for both UGC and FGC. Information credibility was more influential in published studies in the UGC sample. Finally, the impact of positive emotions had lost importance over time for the UGC.

# Discussion

### *Theoretical Contributions*

Over the last decade, social media has become of great interest to academics. However, marketing research has not produced a comprehensive framework for social media content and brand loyalty. Meta-analytical research allows researchers to draw more consistent conclusions from conflicting findings (Grewal et al., 2018). Therefore, this meta-analysis presents a relevant method for the emerging field of purchase-related social media usage. It includes results from 223 independent samples published between 2010 and 2022, with a total of 97,709 respondents. Our research answers the calls of previous research (Alalwan et al., 2017; Li et al., 2021; Xie & Lee, 2015) and thus contributes to marketing theory (1) by synthetizing previous research and by presenting a conceptual framework for UGC and FGC, (2) by testing a conceptual framework that compares the impact of UGC and FGC attributes on brand loyalty, and (3) by clarifying the effectiveness of content attributes on brand loyalty in different conditions (i.e., contextual characteristics and controls). These points are discussed below.

In previous marketing research, social media marketing was shown to differ from traditional media (Colicev et al., 2018). Previous meta-analyses on social media marketing have focused mainly on social media engagement (De Oliveira Santini et al., 2020; Liadeli et al. 2023). We contribute to these findings by addressing social media from the UGC and FGC perspectives. To the best of the authors' knowledge, this is the first meta-analysis to examine social media content from these two perspectives. Investigating the impact of UGC and FGC attributes on brand loyalty dimensions provides useful empirical generalizations. We participated in the debate on the influence of information sources (here, UGC, FGC) by showing that both UGC and FGC attributes influence brand loyalty. We then showed that information quality, information credibility, information usefulness, positive emotions, self-congruity, and interactivity are predictors of brand loyalty dimensions (i.e., cognitive loyalty, affective loyalty, conative loyalty). In addition, we

compare the impact of the different attributes of UGC and FGC. These findings solve inconsistent findings regarding the persuasiveness of UGC and FGC (Colicev et al., 2019; Goh et al., 2013; Stubb & Colliander, 2019) by illustrating the differing effects of attributes. More specifically, we show that the impact of the attributes on the brand loyalty dimension is stronger for FGC than for UGC for most of the relationships. Interestingly, we find that the impact of information usefulness on conative loyalty was stronger for UGC.

Furthermore, our moderation analysis provides specific guidance in terms of contextualizing the associations between UGC and FGC attributes and brand loyalty. The results concerning the moderating effects of contextual characteristics allow us to interpret the results in light of the variegated contexts of existing studies. To the best of our knowledge, this is the first meta-analytical approach to address these moderating effects on the relationships between content attributes and brand loyalty. More specifically, we showed that product value, product involvement, product durability, HDI, and the social media platform affect the relationship between social media content and brand loyalty. Social media research has recently recognized the impact of an information overload on consumers' decision-making (Grewal, 2022). However, social media is still mostly studied from the perspective of goal-oriented information searches. We adopt the view of Erkan and Evans (2018), assuming that consumers prefer other channels than social media for goal-oriented information searches and that the role of social media is more explorative. Because social media is not a place for goal-oriented information searches but rather a place for exploration-oriented information searches, consumers are willing to use less effort to "digest'' social media content if product risk is low. Thus, the findings show that the impact of several attributes is stronger for hedonic, low-involvement, and nondurable products. Our moderator analysis findings also confirm the different responses among developing and developed countries (Bolton, 2013; Thompson & Liu, 2007), as we found that the impact of several attributes was stronger in high-HDI countries.

### *Managerial Implications*

Brand loyalty has been a subject of interest to managers for years. This article provides guidance for companies' marketing activities that intend to help create brand loyalty in the social media context (see Table 4).

We first present the UGC and FGC attributes that impact on brand loyalty dimensions. Based on these attributes, firms should allocate resources to improve their social media marketing. Even though consumer-to-consumer discussions on social media are not under companies' control (Piotrowich & Cuthbertson, 2016), FGC and social media influencers have the opportunity to affect consumers on social media. Therefore, we encourage companies to invest in FGC and social media influencers to increase brand loyalty.

We also found that information usefulness had a strong effect on conative brand loyalty. Therefore, it is crucial to provide optimal content to targeted consumers. Social media algorithms for paid advertisements effectively answer the demand for FGC. From the UGC perspective, the positive content generated by consumers with followers from a company's particular consumer segment is the most effective. Consequently, we highlight the importance of micro-influencers with a more homogenic group of followers compared with macro-influencers. In previous research, content generated by micro-influencers was considered more persuasive and had a stronger impact on brand loyalty (Kay et al., 2020).

Our findings also illustrate the moderating effects of contextual characteristics and that social media is more often used for explorative-oriented information searches than it is for goal-oriented information searches. In summary, the impact of content attributes is most effective for low-risk products. Based on our findings, we recommend focusing on hedonic, low-involvement, and nondurable products in social media marketing. Consumers seem to prefer information sources other than UGC or FGC for high-risk products. We also show that social media content is more influential in high-HDI countries. Therefore, it can be expected that the relative importance of

social media will increase in low-HDI countries in the future as more consumers adopt social media platforms. We also found moderating effects of the social media platform. Therefore, we suggest that companies should design social media marketing separately based on the diverse users of social media channels.

Table 4: A Summary of the Managerial Implications

| Issues | Managerial Implications |
|---|---|
| Content attributes | • Information quality, information credibility, information usefulness, positive emotions, self-congruity and interactivity were identified as predictors of brand loyalty. Firms should allocate resources to developing their social media marketing based on these attributes.<br>• Information usefulness was found to be an important predictor of conative loyalty. This underlines the importance of the relevance of content for consumers. For FGC, social media algorithms answer this demand, but for UGC, we highlight the importance of targeting content to the right segments (for example, the followers of micro-influencers with homogenic follower groups), resulting in the stronger impact of information usefulness on brand loyalty. |
| Contextual characteristics | • The role of social media is more important in explorative-oriented information searches than it is in goal-oriented information searches. Thus, our findings indicate the higher |

| | |
|---|---|
| | importance of UGC and FGC attributes for low-risk products (i.e., hedonic, low-involvement, and nondurable products).<br>• Social media platforms moderate the relationship of the information usefulness of UGC and brand loyalty. Thus, managers should consider content in light of the features and users of specific social media platforms.<br>• UGC and FGC attributes have a stronger impact on brand loyalty in countries with a higher HDI. Thus, it can be expected that social media usage will become more important in low-HDI countries when more of their citizens adopt social media channels. |

***Future Research and Study Limitations***

As with all research methods, this meta-analysis approach has certain limitations. Our study was limited to the existing data, which restricted the measurement of relationships. Not all the moderating effects could be addressed because of the lack of quantitative empirical studies. Although social media has been intensively studied over the last few years, there is still a need for more research on some effects and moderators.

Currently, social media is mainly studied from the perspective of goal-oriented shopping. However, we argue that an exploration orientation should be adopted as the main perspective in social media research. For example, future research should address inspiration searches on social media instead of rational information searches.

Our research was limited to the relationships and moderators studied in previous marketing research. As the empirical literature builds more evidence, other direct and moderating effects can be examined in meta-analytical research settings. For example, our conceptual model only

examined the influence of consumers' positive emotions because negative emotions have not been widely studied in previous research. Negative discussions form a greater proportion of UGC than positive posts (Yang et al., 2019).

Many previous studies have addressed social media on a general level and have not focused on specific social media channels. Due to the various characteristics of social media channels, they should be examined more specifically and compared with one another. For example, more research is needed concerning social media channels other than Facebook, which has been the most studied.

The development of social media has been explosive. As an emerging channel, there are no signs that this will slow. Therefore, we suggest that dominant logic and perceptions should be continuously updated. In addition, longitudinal research settings can provide useful insights into recent developments and, consequently, help forecast new trends.

Finally, further studies should clarify the mechanisms behind the measured relationships in qualitative research settings. Quantitative studies do not provide sufficiently deep results on how consumers experience the influence of social media content on their brand loyalty.

[a] The countries included: Australia, Austria, Bangladesh, Belgium, Bosnia & Herzegovina, China, Cyprus, Egypt, Finland, France, Germany, India, Indonesia, Iran, Israel, Italy, Japan, Jordan, Malaysia, Mexico, Morocco, the Netherlands, Nigeria, Pakistan, Poland, Portugal, Qatar, Romania, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Thailand, Turkey, the UAE, the UK, the USA, and Vietnam.

[b] We did not reliability-correct the effect sizes calculated from standardized beta coefficients because they had already been corrected in terms of reliability.

[c] The Egger test was used because at least 10 effect sizes were available (Sterne & Egger, 2005).

[d] Self-congruity and interactivity were excluded due to the low number of correlations with other variables.

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