
Understanding loyalty towards Facebook and the mediating role of trust: an expectation confirmation theory perspective

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Abstract: Facebook is the dominant social media network widely used by individuals and businesses for communication and commerce. Despite controversial issues such as data privacy and misinformation, users and businesses have remained loyal to Facebook. Other niche social networks have managed to gain market share from Facebook by providing better technology and more relevant content to users. The purpose of this research was to investigate determinants of social media loyalty, which include engagement, satisfaction, value, and the mediating role of trust on loyalty for Facebook users. This study used a multi-generational sample of 400 Facebook users. A conceptual model was developed using the theoretical lens of expectation confirmation theory to understand Facebook loyalty and related constructs. Structured equation modelling was used to test the research hypotheses. Results showed a significant relationship between satisfaction and trust but did not show a relationship between trust and loyalty. However, it was found that trust mediated the relationship between Facebook experience and loyalty. The study extends the expectation confirmation theory using the context of Facebook. It provides researchers and marketers with theoretical and practical insights to better understand how loyalty is impacted by engagement, satisfaction, value, and trust.

Keywords: Facebook marketing; social media; user experience; loyalty; trust; engagement.

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1 Introduction

Facebook has become an important distribution channel for personal communication, networking, current events, news, political information, community service, education, e-commerce, and marketing messages in recent years. It has been reported that Facebook has 2.91 billion monthly active users, 88% of Facebook users primarily use Facebook to stay in contact with friends and family, 87.1% of US marketers used Facebook marketing in 2021, 90 million small businesses use Facebook, and 84% of Facebook advertising revenue is derived from mobile devices (Statista, 2022). Over 60 million active business pages and more than two billion comments were posted on business Facebook pages (Barnhart, 2022). Facebook allows businesses to use targeted advertising by leveraging consumer demographic and psychographic data. This access offers marketers a rich dataset for segmentation and targeting to increase customer engagement and build trust and loyalty toward a brand or service. A business can track growth, satisfaction, and monetisation efforts to provide value to customers by using Facebook analytics.

Users on Facebook have connections with friends, family, and businesses. The success and value of social networks depend on the number of users that belong to the network (González-Bailón and Gorham, 2018). Social networks rely on data collected from users, and this data is sold to advertisers for targeted marketing. Relevant content is presented to users based on data collected by reviewing users' activity and engagement with the types of content on the platform. It is in the best interest of social networks to find ways to keep users engaged and find value in the platform so that users' loyalty is maintained. Data collection on social networks has brought up trust issues that may impact users' loyalty towards the platform (Yang et al., 2013; Ayaburi and Treku, 2020). Although issues related to Facebook privacy have been widely reported in the press and users are made aware of data leaks on Facebook, such as the Cambridge Analytica scandal in 2018 (Isaak and Hanna, 2018), users continue to use Facebook by willingly providing information which may imply that users have a certain degree of trust in Facebook.

Previous studies have looked at customer engagement, satisfaction, and loyalty, in the context of outcomes of customer engagement with products and brands (Habibi et al., 2014; Hollebeek et al., 2014; Van Tonder and Petzer, 2018; Kumar, 2020). Habibi et al. (2014) studied brand communities on social media almost a decade ago. They found that user communities on social media platforms, in general, have a moderating effect on brand trust. Hollebeek et al. (2014) used a sample of users on Facebook, Twitter, and LinkedIn and identified brand engagement as a factor that is related to cognitive, emotional, and behavioural activity with the brand. Their focus was on relationship marketing, user involvement, brand connections, and usage intent which are related but not the same as the constructs identified for this study. Van Tonder and Petzer (2018) examined relationships between selected marketing constructs of satisfaction, trust, value, and commitment on the dimensions of customer engagement, but their study focused on traditional marketing of a service product. Kumar (2020) investigated brand engagement and brand loyalty in the hotel industry but did not investigate this role in any social media context. Although some recent Facebook studies have investigated the loyalty construct, they have limitations as they have focused on small business Facebook use outside the USA, such as in Thailand (Muangmee, 2021). Ibrahim et al. (2021) used a convenience sample of only college students to study Facebook use for two coffee shops in Cyprus and found that social media advertising influences the level of trust among customers. A

broader investigation is needed that represents typical Facebook user demographics from all age user groups. All the studies mentioned above identified marketing constructs that were also used in this study but did not adequately address antecedents of loyalty on Facebook that can have a direct or a mediating effect on loyalty. It is not clear why users are loyal to Facebook despite several controversies and privacy issues that have been reported (Constine, 2020). There is a need to better understand user behaviour on Facebook, so the present study attempts to gain a deeper knowledge regarding marketing constructs associated with Facebook.

In social networks, constructs such as engagement, satisfaction, value, trust, and loyalty play an essential role that is constantly evolving due to current issues and events such as national elections, civil unrest, social causes, and the COVID-19 pandemic. Emotional reactions, fake news, and political messaging on Facebook have the potential to affect customer engagement that may impact trust and loyalty towards businesses that use Facebook as a marketing channel. The research objective of this study was to investigate the determinants of loyalty in relation to engagement, satisfaction, value, and the mediating role of trust on Facebook user loyalty. The constructs that were chosen for this study, although important individually, become even more relevant in combination, which can be analysed using multivariate analysis and causal modelling. Although Facebook has been recognised as an effective digital marketing platform (Hinson et al., 2019), there is a dearth of research examining antecedents of loyalty on Facebook, given that the dominant role of Facebook is slowly eroding due to the popularity of other social networks (Hsu and Lutz, 2020). More research is needed to study loyalty on Facebook by identifying specific constructs from an established relevant theory which can then be empirically validated. This research will help fill the knowledge and empirical research gap (Van de Ven and Johnson, 2006) in the area of social media loyalty.

This paper contributes to the existing literature in two ways. The study contributes to theoretical and practical application by providing information about constructs that impact loyalty and mediating effect of trust on Facebook. First, the study provides empirical evidence on the significance of factors such as engagement, satisfaction, and value that users derive from the Facebook platform. Second, it examines the combined influence of these factors using structured equation modelling. The paper is organised as follows: A review of literature is presented first, followed by a theoretical foundation and justification for the included and investigated constructs in this study. These constructs include engagement, satisfaction, value, trust, and loyalty. The sampling and research methodology are described next, followed by data analysis. The paper concludes with a discussion on academic, theoretical, and managerial implications, along with limitations of the study and future research direction.

2 Review of literature and research model development

Digital technology, on which social media platforms are based, has played a role in increasing the efficiency of firms and bringing to light concerns about social, environmental, and health issues (Khan et al., 2021; Yu et al., 2021). The success of Facebook can be attributed to many factors that have impacted engagement and growth to make it the most dominant social media network. By incorporating personal, business, social, and political topics within the Facebook ecosystem, users continue to engage on Facebook and make it a robust platform that can also serve as a marketing channel.

Although in-depth evaluation and investigation of all factors that have made Facebook successful are beyond the scope of any research, a framework was developed based on constructs that have been identified as important and widely cited in extant literature.

The theoretical lens of this study is drawn from the expectation confirmation theory (ECT), first proposed by Oliver (1980). Since the time it was introduced, ECT has been used as a conceptual tool for explaining satisfaction in consumer research in various information systems and marketing areas such as online banking satisfaction (Bhattacherjee, 2001), use of web portals (Lin et al., 2005), and customer loyalty (Valvi and West, 2013). ECT has been used more recently in adopting and using social media (Thanasarnakorn and Suntrayuthb, 2019; Wijaya et al., 2019). The central tenet of ECT is based on satisfaction of a system (in this case, Facebook) which depends on user perception that leads to adoption and continuance of the system. Facebook has made attempts to keep users satisfied and loyal to the content being shown on its platform by displaying and promoting the most relevant and viral content. A network effect is created by evoking an emotional response from users, resulting in many likes, shares, and comments (Maqableh et al., 2021). Advertisers promoting their brands alongside posts that go viral on Facebook stand to benefit from the higher brand association and recall with repeated exposure to the brand. Facebook has a large number of satisfied users who continue to use the platform daily for socialisation and commerce (Graziani et al., 2019). The growth and popularity of Facebook over the years have set high expectations for the platform to deliver content to meet the needs and expectations of users.

ECT provides information on how expectation can influence perception, which can affect satisfaction and further use that results in loyalty towards the system. After a user has interacted with a system, the system is evaluated compared to the original expectations of the user. If the outcome (such as engagement with Facebook) exceeds initial expectations, the disconfirmation is positive, increasing satisfaction. On the other hand, there is negative disconfirmation if the service falls short of original expectation. Researchers have further shown a link between satisfaction and loyalty (Thakur, 2019) in the digital mobile environment, mobile apps, and social media networks (Sashi et al., 2019). Drawing on the ECT and related subsequent research in the marketing domain related to ECT, this study hypothesised that customers' loyalty to Facebook may depend individually or collectively by using ECT and related research constructs such as engagement, satisfaction, value, and trust. The relationship between constructs in this causal model was then investigated. The relevance of research findings in the context of ECT is presented later in the discussion section.

The constructs listed below are first explored in the context of previous research, and then a model is developed by considering the factors in relation to each other.

2.1 Trust

Trust implies assurance that users will find the other partner to be honest and reliable (Wang and Emurian, 2005; Lim et al., 2021a). Since most social network platforms do not charge users to join the network and only ask for minimal information when creating a new account, users are willing to give up their personal and financial information in exchange for a potential perceived value offered by the platforms (Ratten, 2009). This value is the opportunity to connect with other users and businesses on the platform and access and create content shared on the social network. When using online social media platforms, users expect a high level of trust from the platform before giving up personal

information. Trust can also help with user satisfaction if expected outcomes are met (Gefen and Straub, 2004; Ling et al., 2010), which is consistent with the premise of the ECT for continued use of the system. Although Facebook has reported data leaks and privacy violations (Isaak and Hanna, 2018), users continue to reveal and share personal information on Facebook. This willingness to disclose information may imply that users are either not concerned about trust issues or are confident that Facebook will make an effort to keep their information secure (Xie and Karan, 2019). If users see others on their network interacting and engaging with the platform, it can also lead to a level of trust in the platform. Agichtein et al. (2008) noted that social networks are ideal places where user needs are satisfied due to the trust that is established.

Ebrahim (2020) investigated the role of social media marketing and found that it impacts brand loyalty and trust. Due to the social nature of the network, users are connected and share information and interact with content and other users on the network. A new category of users with influence on social media called *brand influencers* can build value and credibility in shared content, which also impacts consumer trust on social media (Lou and Yuan, 2019). These shows, subjective norm, which is the influence of peers or network connections on individuals' behaviour, can affect the intention to share content (Pi et al., 2013; Wei and Murshed, 2019). It also reveals that there is a relationship between subjective norm and trust (Shin, 2013; Chang et al., 2017).

In recent years, data breaches, hacking, and online fraud have become a regular occurrence and have received widespread attention in the news. However, it is puzzling that social media networks such as Facebook are not facing attrition of users due to erosion of trust towards the platform caused by data breaches. In fact, the year-over-year growth of users on Facebook has increased in the last five years (Constine, 2020). It may be possible that users are willing to trust and remain loyal to the platform and accept the inherent risk conditions associated with using the platform. Further investigation would help determine the association between constructs that impact trust characteristics.

2.2 Engagement

Facebook collects tracking data such as IP address, operating system, browser version, time stamps, and website history, providing valuable information to track users across the web. Engagement with brands and platforms has received much attention in the marketing area (Triantafyllidou and Siomkos, 2018; Kumar et al., 2021). Lim et al. (2021b) note that there is no consensus on the definition of customer engagement. Still, the concept of engagement has the same end goal of eliciting customer behaviour in terms of attitude, loyalty, and purchase intention. It has been shown that messaging strategy shapes consumer behavioural engagement on social media (Tafesse and Wien, 2018). With small and large businesses establishing a presence on Facebook, customers tend to 'like' and share information about a brand with their social circle connections on the Facebook platform. Engagement within the Facebook platform with brands helps users connect and form brand communities (Dessart et al., 2015), thereby providing value to users and keeping them emotionally attached to a brand and other users (DesAutels et al., 2014) in line with the ECT.

The link between engagement, value, and attachment leads to a positive interaction with brands on Facebook (Hinson et al., 2019) which explains the satisfaction outcome related to engagement in the ECT. Businesses can leverage Facebook pages to provide value and satisfaction to users who may continue to share marketing and promotional

materials for the brand. Facebook provides a convenient platform for disseminating information that can generate interest and trust, impacting purchase intention and loyalty toward the brand (Dehghani and Tumer, 2015; Husain et al., 2022; Meppurath and Varghese, 2022).

The business model of Facebook relies on keeping users engaged and active on its platform so advertisements can be displayed, and the browsing behaviour of users can be collected for re-targeting. Using tracking and session cookies, Eisenstat (2020) noted that Facebook manipulates the information ecosystem by segmenting users and feeding personalised content that provokes a strong emotional reaction that keeps users engaged with the platform. This targeting is consistent with the business model for Facebook, which deals with user growth that is achieved by optimising engagement by using personalised marketing (Tran, 2020). The Facebook algorithms that use curation, amplification, and targeting are developed to focus on engagement. The engagement, which may be different based on user demographics (Matin et al., 2020), is taken into account by the algorithm, which can customise advertisements seen by segments of users. The algorithms reward content shared by Facebook users and groups that is most divisive and polarised because this type of content can increase engagement. Higher engagement on Facebook results in higher advertising revenue (Lee et al., 2018; Chung and Kim, 2021). Facebook has a significant influence on news, politics, and civil issues (Nelson et al., 2021) and uses the information to manipulate users' emotions by presenting content that might be biased or polarising based on individual user profiles and preferences shown while using Facebook. The goal of the Facebook algorithm is to show content that the user will find interesting, so the user remains active and engaged on the Facebook platform.

Based on the above discussion, the following hypothesis is proposed:

H1 Higher level of engagement with Facebook results in higher level of trust.

2.3 Satisfaction

Studies using ECT have shown that satisfaction strongly predicts continuance intention (Bhattacherjee, 2001). Satisfaction on social networks is crucial for sustained use over time as it encourages users to interact in the medium. Pappas et al. (2017) observed that users are motivated to join social networks to fulfil needs for entertainment, emotional fulfilment, and socio-psychological connections. Facebook caters to a broad audience by offering a platform for discussion on all types of topics to meet the needs of diverse users across different demographic and psychographic profiles. Since the earliest days of usability studies, it has been known that the user interface is an essential determinant of user satisfaction (Doll and Torkzadeh, 1988). Facebook is available on desktop, laptop, and mobile devices, so it accommodates user preferences based on how users choose to access Facebook. By being involved in a community of online users, it has been found that users build relationships within the network with a brand and other users on the network. It has also been noted that interactivity on a platform affects preference with the platform because the more engaged users find satisfaction and enjoyment in using interactive features of the environment (Childers et al., 2001). Facebook has incorporated design considerations (such as form factors for different screens) and interactivity (such as the 'like' button) to encourage and facilitate content consumption to generate repeat

visitors. These features facilitate and encourage users to create and share content and participate and interact with individuals and businesses, which may lead to satisfaction.

It is possible that some users may also derive satisfaction from polarising content on Facebook. Kim and Kim (2019) stated that users perceive Facebook as valuable and satisfying by seeking out information that confirms their views, reinforces biases, and provides a sense of belonging in a community of like-minded users. Wang and Li (2016) found that trust in a network can help users disclose sensitive information, resulting in interactions and associations that mutually benefit the network and users on the network. Once trust has been established, social media networks can help build customer satisfaction and loyalty (Juntongjin, 2021). Since customer satisfaction is one of the factors that can drive revenue and profits (Judson et al., 2012), it is important to investigate factors that are affected because of satisfaction with the network so marketers can tailor communications based on users' expectations of the social media platform. With increasing competition from existing and new social networks, there is a need to further investigate user satisfaction in the context of trust for Facebook users.

Based on the above discussion, the following hypothesis is proposed:

H2 Higher level of satisfaction with Facebook results in higher level of trust.

2.4 *Value*

Customers receive value by interacting with a brand. In addition, social media platforms offer value to customers seeking to network with individuals and businesses. Companies also gain value by building social capital when consumers engage in marketing activities (Diffley et al., 2011). Factors that build value encourage users to keep using the brand because of the benefits gained from engagement with others in the network, consistent with the ECT that the value received from using the system would lead users to continue to use the system. Some measures of value can include creating productive use of time, improving quality of life, and providing long-term benefits and advantages from using the social network (Kao et al., 2016). Companies use Facebook pages to reach out to customers, answer questions, promote their products to keep consumers informed, promote discussion, and share product attributes and uses. This interaction creates value and offers a marketing channel to direct customers to websites that sell the product (Gera et al., 2021). A community created around a brand can encourage sharing of content and messages that add value based on interaction in the network. Brand loyalty can be formed by enhancing brand trust by customers who find value in social networks (Laroche et al., 2013).

Value can be related to product attributes, experiences, communication with other users, and the company marketing the product. Schreiner (2020) mentioned that the value received can be objective (i.e., better sound, faster connectivity, quicker payment, lower price, no repeat of personal information, etc.) as well as subjective (i.e., ethical standards of the company, the social issues that the company supports and the customer may personally value, support for diversity, etc.). Over time, the value received helps customers build trust, which can be further validated by similar experiences of other people on the network. Marketers can gauge customer feedback by evaluating sentiments expressed in Facebook comments, posts, and videos (Dhaoui et al., 2017; Aslam et al., 2021). While there is literature on the experiences of consumers with brands using

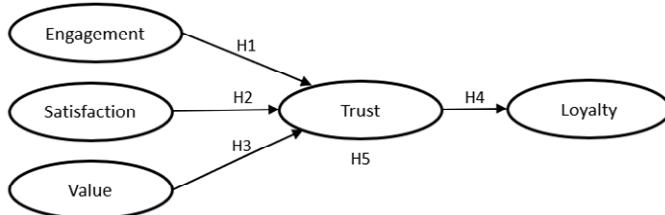
different types of marketing activities, the relationship between value and trust for social networks such as Facebook needs further investigation.

H3 Higher level of value with Facebook results in higher level of trust.

2.5 Loyalty

Researchers have reported that satisfaction, trust, and commitment are determinants of brand loyalty (Dorsch et al., 1998; Rezaei and Ismail, 2014). Zhou and Liu (2014) used the ECT in the context of mobile banking. They found that continuous engagement with the system leads to customer satisfaction and loyalty toward the system. Factors such as perceived quality (Parasuraman et al., 1988), value co-creation (Cossío-Silva et al., 2016), customer knowledge management (Bhat et al., 2018), marketing mix (Sudari et al., 2019), satisfaction (Thakur, 2019), and price fairness (Hride et al., 2021) have been reported to be antecedents to loyalty. There may be other constructs that also affect loyalty. For example, negative publicity about a brand (or social network) may cause users to leave the brand. Because of controversies surrounding Facebook, such as issues related to privacy, tax avoidance, censorship, intellectual property infringement, data mining, hate speech, fake news, fake user accounts, and broadcast of violent incidents, there have been calls for users to boycott or quit Facebook (O'Sullivan, 2020). However, compared to the total number of users on Facebook, the response to leave Facebook has been heeded by only a small proportion of users. These types of users have been found to be most concerned about their privacy, are addicted to the internet, and are conscientious compared to other Facebook users (Stieger et al., 2013).

Figure 1 Research model of Facebook constructs



Recently, Hsu and Lutz (2020) reported on an advertiser boycott of Facebook, which was organised by a civil rights group. Using the hashtag *#StopHateForProfit* the group asked large and small advertisers to stop buying Facebook advertisements to protest Facebook's lack of adequate response to curb hate speech and misinformation on its platform. Companies that took part in the boycott included Disney, General Motors, Starbucks, and Coca-Cola. Although the boycott raised attention to civil rights issues, it did not affect overall advertisement revenue because the Facebook platform was being used by many advertisers. This indicates that Facebook continues to be an integral part of marketing for large and small businesses that remain loyal to Facebook despite controversial issues. Users continue to demonstrate loyalty to Facebook because it may provide value and satisfies their needs. There is a further need to investigate loyalty in the context of prominent social media platforms such as Facebook, which has established itself as an essential marketing channel for businesses. Based on the above discussion, the following hypotheses are proposed:

H4 Higher level of trust with Facebook results in higher level of loyalty.

H5 Trust mediates the positive effect of Facebook experience (engagement, satisfaction, value) on loyalty.

A summary of the research model showing constructs associated with Facebook and the hypotheses proposed to explain trust and loyalty determinants for Facebook users is shown in Figure 1.

3 Research methodology

The literature review showed that while studies exist on the constructs of engagement, satisfaction, value, and trust, there is a need for further research to investigate the causal and mediating impact of these factors on loyalty in the context of the Facebook social network. This section describes the method used to collect the data, and the demographic breakdown of participants in this study is provided.

3.1 Demographic information

The goal of this study was to determine the effects of engagement, satisfaction, and value that are mediated by trust on loyalty towards Facebook. The survey was pilot tested after the Institutional Research Board granted approval on behalf of the university. Content validity was established by a panel of experts at the university who were familiar with social media research. The online survey was administered anonymously using a professional survey management company (qualtrics) which provided a national participant pool. The average time to complete the survey was 15 minutes. At the start of the survey, participants were provided information about the goal of the study, the researchers' contact information, the university IRB information, and the average time it would take to complete the survey. Participants were also informed that the survey was anonymous and no personal information would be collected, and IP addresses would not be recorded. For participants who agreed to the informed consent, the first set of questions were screener questions that qualified participants. To be allowed to continue with the study, the participants were required to have a Facebook account for at least two years. Those not meeting this criterion were exited out of the survey. Qualified participants were then asked questions about their use of other social media platforms (besides Facebook) and the average frequency of using Facebook during the week, followed by questions about the frequency of reading content and posting content on Facebook. Participants then answered questions about why they used Facebook (such as personal, business, networking, gaming, and current events). These questions were followed by asking participants about their opinion on Facebook advertisements and whether they found the ads relevant. The next section of the survey presented the indicator items in random order for constructs of engagement, satisfaction, value, trust, and loyalty toward Facebook. The indicator items were presented using a five-point Likert scale which ranged from strongly disagree to strongly agree. The final set of questions were demographic information regarding age, gender, ethnicity, education, and employment.

Although researchers have provided recommendations that sample size may be determined by using ten responses per indicator (Nunnally and Bernstein, 1994), a more

stringent criterion for determining sample size was used by selecting a 95% confidence level, a standard deviation of 0.5, and $\pm 1\%$ margin of error (Krejcie and Morgan, 1970; Westland, 2010). Using these parameters, the lower bound on sample size for the SEM model was calculated to be 384 cases, which was based on indicator variables using a statistical power of 0.80. The survey was administered to a sample size of 400 respondents in the USA. Participants were selected using proportionate multistage quota sampling to represent groups and generations. The demographic profile of respondents is shown in Table 1. The constructs were subjected to SEM analysis to draw conclusions that provided additional insights into users' loyalty toward the Facebook social media platform.

Table 1 Demographic information

| <i>Measure</i> | <i>Items</i> | <i>n</i> | <i>%</i> |
|----------------|-------------------------------------|----------|----------|
| Gender | Male | 200 | 50 |
| | Female | 200 | 50 |
| Generation | 1944–1964: Baby Boomers | 100 | 25 |
| | 1965–1980: Gen X | 100 | 25 |
| | 1981–1996: Gen Y/Millennials | 100 | 25 |
| | 1997–2001: Gen Z | 100 | 25 |
| Race | White | 315 | 78.8 |
| | Black or African American | 56 | 14.0 |
| | American Indian or Alaskan | 4 | 1.0 |
| | Asian | 14 | 3.5 |
| | Native Hawaiian or Pacific Islander | 2 | 0.5 |
| | Other | 9 | 2.3 |
| Education | High school graduate | 94 | 23.5 |
| | Some college | 118 | 29.5 |
| | 2-year degree | 63 | 15.8 |
| | 4-year degree | 79 | 19.8 |
| | Professional degree | 42 | 10.5 |
| | Doctorate | 4 | 1.0 |
| | | | |
| Employment | Employed full-time | 192 | 48.0 |
| | Employed part-time | 61 | 15.3 |
| | Unemployed looking for work | 43 | 10.8 |
| | Unemployed not looking for work | 37 | 9.3 |
| | Retired | 67 | 16.8 |

The data collection methodology shown in this section leads to scale development and testing of the hypotheses shown in the following sections.

3.1.1 Instrument and measures

The latent constructs of engagement, satisfaction, value, trust, and loyalty were estimated using indicator items provided in the survey. The results of the measurement model were

as follows: for the *engagement* scale, items were related to research conducted by Seidman (2013), Lim et al. (2014), Habibi et al. (2014), Ashley and Tuten (2015), Hollebeek et al. (2018) and Dessart et al. (2015). Items included in this scale addressed engagement on the Facebook network, interest in using Facebook, sense of community due to Facebook use, importance, relevance, and sense of community offered on the Facebook network. For the *satisfaction* scale, items were derived from research conducted by Dorsch et al. (1998), Anderson and Srinivasan (2003), Brakus et al. (2009), Rezaei and Ismail (2014), Arli (2017), Lim et al. (2014) and Nisar and Whitehead (2016). Items included in this scale were related to experience with services offered by Facebook, fulfilment, gratification, fit, decision to continue Facebook use, and Facebook communication preferences. For the *value* scale, items were extracted from Culnan et al. (2010), Erdogmus and Cicek (2012), Kim and Ko (2012), Laroche et al. (2013), Balakrishnan et al. (2014), Zhao et al. (2016) and Yoshida et al. (2018). Items included in this scale addressed the ability to network and communicate with others, improve quality of life, provide long-term benefits, and make productive use of time. For the *trust* scale, items were adapted from research conducted by Chaudhuri and Holbrook (2001), McCole and Palmer (2002), Ridings et al. (2002), Kim (2007), Jones and Leonard (2008), Mvungi and Iwaihara (2015) and Ayaburi and Treku (2020). Items included in this scale were related to sincerity, tracking of personal information, the willingness of users to provide personal information such as cellphone or credit card numbers, and risk from using the Facebook network. For the *loyalty* scale, items were derived from Zeithaml et al. (1996), Reichheld and Schefter (2000), Ridings et al. (2002), Nisar and Whitehead (2016) and Arli (2017). Items included in this scale were related to comparative use over other social media platforms, reluctance to switch, encouraging others to sign up, and feeling more connected to users on Facebook than on other social media sites.

3.1.2 Data analysis and findings

As part of exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated and found to be 0.93. A value greater than 0.7 is considered the minimum requirement for obtaining distinct and reliable factors (Kline, 2013). Also, Bartlett's test of sphericity was found to be significant ($p < 0.001$), which shows a relationship between variables. Reliability analysis of scales was conducted, and it was found that each construct exceeded the recommended Cronbach alpha reliability coefficient (α) of 0.7 (Nunnally and Bernstein, 1994). The constructs of engagement, satisfaction, value, trust, and loyalty along with the indicator items and reliability coefficients of scale measures, are shown in Table 2. The table also summarises factor analysis on the measurement model, including item loadings, internal consistency reliability (including Cronbach's alpha and composite reliability), and convergent validity using average variance extracted (AVE). Podsakoff et al. (2012) recommended that the possibility of common method bias be investigated by using a marker variable. It was found that common method bias was not an issue for the instrument used in this study. The measurement model met recommended minimum parameters (Ford et al., 1986) for all constructs, which shows good internal consistency and reliability for the constructs in this study.

Table 2 Scale constructs, indicator items, and reliability coefficients

| Constructs/indicators | Factor loading | Cronbach alpha | AVE | CR |
|---|----------------|----------------|------|------|
| <i>Engagement</i> | | 0.91 | 0.72 | 0.93 |
| I have a strong interest in using Facebook | 0.82 | | | |
| Facebook is very important to me | 0.90 | | | |
| Facebook matters a lot to me | 0.90 | | | |
| Facebook provides me a sense of community | 0.76 | | | |
| Facebook is very relevant to my life | 0.88 | | | |
| <i>Satisfaction</i> | | 0.90 | 0.71 | 0.92 |
| I think I made a correct decision to use Facebook | 0.85 | | | |
| The experience I have had with Facebook has been satisfactory | 0.87 | | | |
| I am satisfied with the way the Facebook has allowed me to communicate with people I know | 0.82 | | | |
| I am satisfied with services provided by Facebook | 0.85 | | | |
| Using Facebook suits me well | 0.85 | | | |
| <i>Value</i> | | 0.82 | 0.63 | 0.80 |
| Using Facebook enhances my ability to communicate with people I know | 0.72 | | | |
| Using Facebook improves my quality of life | 0.86 | | | |
| Using Facebook is a productive use of my time | 0.80 | | | |
| Using Facebook will provide me with long-term benefits | 0.79 | | | |
| <i>Trust</i> | | 0.71 | 0.45 | 0.77 |
| Facebook provides a platform that encourages sincere and honest communication | 0.62 | | | |
| It usually bothers me when Facebook asks me for personal information | 0.72 | | | |
| I am willing to provide my cellphone number to Facebook | 0.72 | | | |
| Using Facebook is risky as my information could be compromised | 0.63 | | | |
| <i>Loyalty</i> | | 0.80 | 0.70 | 0.90 |
| I prefer using Facebook over other social media sites | 0.90 | | | |
| I use Facebook more than any other social media site | 0.88 | | | |
| I have encouraged people I know to sign up with Facebook | 0.65 | | | |
| I feel more attached to Facebook than any other social media site | 0.90 | | | |

To assess the convergent validity of the model, item loadings, composite reliability, and AVE were calculated. One item from value, trust, and loyalty was deleted due to low factor loadings. After deleting the problematic items, item loadings of 0.6 or higher are recommended by Chin et al. (2008). For composite reliability, which is the indicator of

the shared variance among the observed variables (Fornell and Larcker, 1981), the values met the minimum requirement of 0.7. For AVE, which reflects the amount of variance of indicators in the latent construct, the values for all constructs (except trust) exceeded 0.5, which is required per recommendations by Hair et al. (2013). Since the AVE for trust construct (0.45) was close to the minimum threshold, further investigation was done since AVE is considered to be a conservative estimate of validity in the measurement model. In such cases where a value is close to the threshold value, Fornell and Larcker (1981, p.46) also recommend checking the measure's composite reliability before making a determination. Since the composite reliability of the trust construct was 0.77, which exceeded the minimum threshold of 0.7, it was determined that all constructs had convergent validity. Discriminant validity of constructs was then confirmed by verifying the square root of AVE for each construct to be greater than each of the inter construct correlations of other constructs (Zaīt and Berteia, 2011). Results are shown in Table 3.

Table 3 Discriminant validity

| | <i>Engagement</i> | <i>Satisfaction</i> | <i>Value</i> | <i>Trust</i> | <i>Loyalty</i> | <i>AVE</i> |
|--------------|-------------------|---------------------|--------------|--------------|----------------|------------|
| Engagement | 0.85 | 0.82 | 0.78 | 0.56 | 0.76 | 0.72 |
| Satisfaction | 0.82 | 0.84 | 0.71 | 0.60 | 0.74 | 0.71 |
| Value | 0.78 | 0.71 | 0.79 | 0.47 | 0.60 | 0.63 |
| Trust | 0.56 | 0.60 | 0.47 | 0.67 | 0.49 | 0.45 |
| Loyalty | 0.76 | 0.74 | 0.60 | 0.49 | 0.84 | 0.70 |

Note: SQRT (AVE) is shown in diagonal.

As mentioned above, the CFA model was tested and showed a good model fit in post-hoc analysis after adding an error term covariance. The measurement model confirmed the CFA model, reliability, discriminant and convergent validity, and factor structure. Thus, a good model fit CFA, and a reliable and valid instrument was confirmed.

Model-fit analyses were computed to determine path coefficients using AMOS 24. The CMIN χ^2/df index is considered a goodness of fit index for the model and is recommended to be <5 (Kline, 2013). For the model, the χ^2/df (630.12/183) was 3.36. In addition, it is also known that χ^2/df is sensitive to sample size and may not show a good fit for larger samples (Hair et al., 2013), so additional model fit indices were also used. The comparative fit index (CFI) compares the model being studied with an alternative model, such as the null or independence model. CFI values of 0.9 or above are considered acceptable (Bentler, 1992). For this model, the CFI was found to be 0.932. Tucker-Lewis Index (TLI), which compares χ^2 for the model under study with a null model, should have a value of 0.9 or above and is generally considered to represent a good fitting model. For this model, the TLI index was 0.911. Root mean residual (RMR), which provides an estimate of the average misfit for each estimated versus observed variance/covariance parameter and has a threshold value of <0.08 to be acceptable (Bagozzi and Yi, 1988), was found to be 0.067. Quintana and Maxwell (1999) recommend using root mean square of approximation (RMSEA) for model fit since it is less sensitive to sample size in comparison to the χ^2 test. For the RMSEA index, a value of <0.1 is considered to be acceptable for model fit (Byrne, 2008). For this research model, the value of RMSEA was 0.069. The indices suggest an acceptable model-to-data fit to the study based on the above information.

The next step was to test the full structural model to determine if the five hypotheses were supported. Structural modelling was done to show the causal effects of latent variables in the model presented in Figure 1. As shown in Figure 1, the study investigated if the two endogenous variables (trust and loyalty) were explained by independent variables: engagement, satisfaction, and value. Before hypothesis testing, the underlying assumptions of SEM (normality, sampling adequacy, and multicollinearity) were validated. Since engagement, satisfaction, and value showed good convergent and discriminant validity but high multicollinearity, based on recommendations from Grewal et al. (2004), a second-order construct, *Facebook experience*, was created, which is a reflective construct composed of engagement, satisfaction, and value. Facebook experience was used to test the mediating effect of trust between Facebook experience and loyalty constructs.

The first hypothesis showed a positive relationship between engagement and trust. The standardised regression estimate was not statistically significant ($\beta = 0.25$, $t = -4.5$, $p > 0.05$). The second hypothesis showed a positive relationship between satisfaction and trust. The standardised regression estimate was statistically significant ($\beta = 0.65$, $t = -0.015$, $p < 0.05$). The third hypothesis showed a positive relationship between value and trust. The standardised regression estimate was not statistically significant ($\beta = 0.15$, $t = -0.015$, $p > 0.05$). The fourth hypothesis showed a positive relationship between trust and loyalty. The standardised regression estimate was not statistically significant ($\beta = -0.55$, $t = -1.58$, $p > 0.05$). The final hypothesis investigated the possible mediating relationship of trust between Facebook experience and loyalty. Without using the trust variable, a significant direct relationship between Facebook experience and loyalty was found. When the mediating variable of trust was introduced, the direct relationship not only remained significant but also increased, thereby giving evidence of partial mediation of the role of trust between Facebook experience and loyalty. Conger (1974) and MacKinnon et al. (2000) explained this type of partial mediation as the suppression effect. In this type of effect, after a variable is included in the model, there is an increase in the proportion of variance explained by the independent variable (Facebook experience) in the criterion variable (loyalty).

A summary of hypotheses testing results is provided in Table 4.

Table 4 Hypothesis testing

| Hyp. | Path | Beta | SE | t-value | Result |
|------|---------------------------------|-------|-------|---------|---------------|
| H1 | Engagement → trust | 0.25 | 0.442 | -4.50 | Not supported |
| H2 | Satisfaction → trust | 0.65 | 0.015 | 5.30 | Supported |
| H3 | Value → trust | 0.15 | 0.529 | 0.29 | Not supported |
| H4 | Trust → loyalty | -0.55 | 0.470 | -1.58 | Not supported |
| H5 | FB experience → trust → loyalty | 1.30 | 0.504 | 3.92 | Supported |

Notes: N = 400; $\chi^2/df = 630.12/183 = 3.36$; TLI = 0.911; CFI = 0.932; RMR = 0.067; RMSEA = 0.069.

4 Discussion and implications

The results of this study provide both theoretical and practical implications. From a theoretical perspective, this study extends the ECT. Previous ECT research has identified satisfaction being a predictor of continuance. This study shows that ECT can extend the satisfaction construct by demonstrating the role of trust and loyalty as additional constructs that facilitate continuance. In prior studies, ECT has explained post-adoption satisfaction of a product or service as a function of expectations, performance, and beliefs. The findings of this study add to previous literature on ECT and social media (Thanasarnaksorn and Suntrayuthb, 2019; Wijaya et al., 2019; Gupta et al., 2020) by investigating and including additional constructs, such as value, trust, and loyalty, that are related to satisfaction. The relationship with users who value the Facebook experience and trust Facebook with their information can serve as a competitive advantage for Facebook that other newer social networks are still trying to develop. With the focus on transparency with its users, Facebook may be aware of the importance of these constructs. This study provided empirical validation by showing how other constructs are linked to loyalty on Facebook.

The current research asserts that social media platforms are more complex as it involves not only individualism but also collectivism (such as Facebook groups) as well as processes (such as Facebook like/share/comment features) built into the social media platform that encourages user engagement which can build trust and loyalty. The constructs used in this research extend ECT to provide more empirical data on the role of social media loyalty for the Facebook platform. Facebook has become controversial in recent years as it has emerged to be a popular platform for various current topics related to business, politics, economics, global health, and policy development. There have been calls for government and self-regulation of online platforms, which may affect businesses and impact the way Facebook collects user information which can, in turn, affect the trust, value, and loyalty of users. Mishra et al. (2020) call for a balance between technology that helps users access features and consumers' desire for greater freedom. The findings of this study showed that the Facebook experience (which is a function of engagement, satisfaction, and value) was a significant factor in predicting loyalty. In addition, trust was also a significant predictor of loyalty. Facebook is constantly testing and rolling out new features for a better user experience to help retain users on its platform.

On social media platforms such as Facebook, trust and loyalty are essential to establish user-platform relationships. Gvili and Levy (2018) found that users are more willing to share their experiences if they are satisfied with a product or service, which affects engagement, trust, and loyalty to a brand. Trust and loyalty, which were the endogenous constructs in this study, are also closely related to data privacy issues for which social media platforms have failed to find a satisfactory solution. Many major technology giants have faced privacy and ethics-related issues that have impacted trust in social networks. For example, Facebook exposed up to 87 million users' raw data to a researcher at Cambridge Analytica. The same data was later exploited to create hyper-targeted political advertisements in the 2016 election (Isaak and Hanna, 2018). To mitigate the effect of attrition from Facebook, it has given users more control over their personal data by building different privacy levels which users can adjust to control the release of personal information. The issue of trust is not limited only to Facebook and is a cause for concern for other social media networks. Google, the largest

advertisement-based company, constantly leverages user information such as location history, photo libraries, and app data to optimise and personalise advertisements. TikTok was banned in India and came very close to being banned in the USA because of security concerns due to its obligation to hand over data to the Chinese Government if requested. These examples underscore the need for research in areas related to social media user engagement and trust (Varnali, 2021). Trehan and Sharma (2020) observed that the media richness of the Facebook platform increases social capital and a sense of virtual community among users. The underlying requirement for all social networking and advertising platforms to be successful is to have access to quality user data obtained by offering users value when they use the platform. For example, Choi (2020) provides examples of how video advertising can tap into personality traits to collect meaningful data. Users willingly provide personal information at a cost to their data privacy by rationalising that the benefits obtained by using social media platforms outweigh the risks. Companies value user engagement because users contribute to a firm's marketing functions (Tafesse and Wien, 2018). Since satisfaction is essential before a user may consider giving up personal information, this study empirically tested a model using SEM and causal relationships between engagement and trust. The results showed that the satisfaction construct emerged as the strongest dimension of trust. Facebook users can express their satisfaction with content and marketing messages posted on Facebook by using the *like* and *share* buttons and commenting on posts. This engagement with content provides a metric for advertisers to determine the efficacy of their advertising efforts and demonstrate the positive value of their brands on Facebook. These results are consistent with the findings of Clark et al. (2017) and Lee and Lee (2017), who found that a personally relevant platform would make consumers more active in a brand community. In the same study, it was also found that engaging in a brand community leads to satisfaction with a social media brand. This study shows that user satisfaction appears to offer the most benefit in establishing trust for the Facebook platform.

Another objective of this study was to investigate trust as a mediator between Facebook experience and loyalty. It was found that trust plays only a mediating (not direct) role in loyalty, which partially supports previous research (Stathopoulou and Balabanis, 2016; Yeon et al., 2019) that identified the pivotal role of trust in social media marketing. Although previous literature had found that trust is required for users to be engaged in a platform (Metzger, 2004; Smith et al., 2011; Matin et al., 2020), this study found that trust does not directly impact loyalty for Facebook users. This finding may result from the evolving role of social media as an integral part of the daily lives of social network users. Users realise that giving up their personal information may be a trade-off for gaining social benefits when using social networks.

The other constructs of the study, engagement and value were not significant in predicting trust. This finding contradicts previous research, which had established that value received from interactions on a social network creates an emotional connection and can establish trust in the brand (Lowenstein, 2015; Malik et al., 2016). For establishing trust, this study found that the smallest degree of influence within the Facebook experience was value. Value is derived from using the product and experiencing the features that were advertised (Culnan et al., 2010). The nature of social media relies on establishing and maintaining connections. So even though a user may value a particular social media platform (e.g., Facebook), if connected friends prefer another social network (e.g., newer networks such as TikTok), the value of the initial network (Facebook) may be diminished as it may not provide significant value for connection and communication.

Similarly, another non-significant construct of engagement (as it relates to trust) may not play a role for the user to continue to use the platform, given that another social network can provide a much higher engagement due to a deeper level of experience and interaction with the content or users on that network. This result shows that although Facebook is currently the largest and most dominant social network, it is vulnerable if other social networks develop content that increases engagement and provides satisfaction or value to attract users who may develop trust in the platform to become loyal, long-term users. The ECT used in this study identified satisfaction with a system as a primary driver of adoption and continued use of the system.

Although much work has been done on trust and loyalty in brand marketing, this study extends previous studies by considering latent constructs such as engagement, satisfaction, and value for social networks. This study provided a model investigating determinants of trust and loyalty constructs on the Facebook platform. From a theoretical perspective, the significant finding of the study is that satisfaction leads to trust, and overall, Facebook experience impacts loyalty when it is mediated by trust on the Facebook platform. Although trust did not show a significant relationship to loyalty, it was found that the inclusion of trust increased the predictive validity between Facebook experience and loyalty. The research provides new knowledge in conceptualising determinants of trust and loyalty on a social media network which can serve as lessons for marketers. People use Facebook because it meets their social, communication, interaction, or business needs. Many users have a choice between using social media networks and may not be loyal to one platform. This research provided information on the Facebook experience of users by using a multi-generation and gender perspective, which can directly influence marketing strategy. Yung (2018) found that the extent to which different categories of users use Facebook and patterns of engagement can be used as variables for the segmentation of Facebook users. Results of this study also add to previous literature on social media use. This study updates and validates outcomes and constructs for the most dominant social media network that continues to influence and impact the daily lives of citizens all over the world. Another theoretical contribution of this study is that it offers evidence that satisfaction with the social media platform is more significant than either engagement or value received from the platform. By empirically validating the construct of satisfaction, the measure that is most important for social media marketing was identified.

Based on extant literature for a large social media platform, it can be debated that Facebook experience, which is a combination of engagement, satisfaction, and value gained by users of the platform, will affect trust, which in turn can serve as a mediator between experience and loyalty. This study found that engagement and value gained from the platform did not significantly affect trust, and trust did not impact the loyalty of users' continued use of Facebook. This result shows that users may not trust Facebook due to controversial issues such as hosting and propagating fake news (Guess et al., 2019). However, users will remain loyal to Facebook (Hinson et al., 2019). This finding has implications for marketers as trust does not appear to impact loyalty directly, but it does mediate the relationship between overall Facebook experience and loyalty. Marketers should focus on providing advertisements that augment the Facebook experience. One way this can be done is by providing emotional triggers, promotional offers, and contextual photos (Graziani et al., 2019). The conceptual model in this study can be helpful to marketers in determining how engagement, satisfaction, and value provided by Facebook experience can affect loyalty.

It can be concluded from the results of this study that engagement, trust, satisfaction, value, and loyalty are important constructs that need to be monitored by Facebook advertisers to provide value to consumers. The impact of satisfaction on trust has practical implications when designing Facebook advertisements. The results of this study showed that trust plays a significant positive role in mediating Facebook experience and loyalty. If users trust a brand, it will lead to loyalty which can drive repeat purchases of products marketed and sold by the business on Facebook. The advertising platform on Facebook provides businesses an opportunity for targeted advertising to increase engagement and provide satisfaction with the brand. This study adds to the ECT by validating the role of satisfaction on trust. This study is unique because it used the ECT to identify and explore a combination of constructs related to Facebook which had not been empirically investigated previously using the context and research model of this study. By monitoring consumers' responses to advertisements using in-depth customer insights and analytics, social media managers can tailor marketing messages for target segments. Managerial implication suggests that social media marketers should design communication, content, and messaging that offers a feeling of satisfaction to users. By building promotional messages on Facebook that involve the user and, more importantly, provide satisfaction to the user by allowing content sharing with other connected users on the network, satisfaction will be increased, which was shown to impact trust. For loyalty to be maintained, it is crucial that users are satisfied with the platform. A satisfied user is more likely to engage with a brand on Facebook, which can be helpful for brand managers to create loyal consumers who can be reached on the largest social media network, thereby propagating a network effect that can help connect the consumer with the brand. This study showed overlap between trust and loyalty, which, although separate constructs, appear to provide a similar impact. This finding has managerial implications, as marketing content related to creating trust can also influence loyalty. This study provided new knowledge to the social media marketing arena that is constantly seeking new ways to attract new users and keep existing users engaged with the content and advertisers on the network.

5 Limitations and recommendations for future studies

This study investigated how constructs such as engagement, satisfaction, and value can affect trust and loyalty towards Facebook. Despite significant implications, this study has some limitations. This quantitative study could further benefit from a qualitative paradigm that explores Facebook users' emotions in relation to trust and loyalty. The model used in this study should also be tested with users of competing social networks to determine if the results are comparable, which would give further insight to marketers who use different social media platforms for content distribution and promotion. The social network user base is affected by subjective norms, leading to erosion of trust and loyalty (Lee and Cho, 2011). In recent years, other social networks, such as TikTok have taken away market share from well-established social networks such as Facebook. Advertisers have also moved away from Facebook to competing social networking platforms to attract new users to their brands. Future research should compare the constructs of satisfaction and trust on different social network platforms. This research can lead to practical implications on how Facebook marketing campaigns can be made more effective. In addition, there may be different types or categories of products, such as

utilitarian or luxury products, that are affected differently by the constructs used in this study. Research could investigate which of these products are most suitable for marketing on Facebook.

There may be other constructs (beyond what was examined in this study) that also, individually or in combination, may affect the trust and loyalty of Facebook users. Additional constructs need to be explored along with the demographic characteristics of Facebook users. There are many different types of advertisements that can be run on Facebook. Examples of these ads are image ads, video ads, poll ads, carousel ads, slideshow ads, lead ads, and collection ads (Newberry, 2020). Future research could investigate the constructs used in this study with different types of advertisements to make a comparison. This would provide guidance to help social media managers design better product campaigns that increase customer trust and loyalty.

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