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The information sharing among students on social media: the role of social capital and trust

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Abstract

Purpose – This study aims to investigate how social capital (e.g. cognitive and relational) influences students' trust (e.g. cognitive and affective) as mediator variables, affecting students' information sharing activity on Facebook.

Design/methodology/approach – The sample consists of 398 valid participants obtained through an online survey and using structural equation modeling (SEM) to test the research hypotheses.

Findings – The empirical results indicate that social capital has significant and positive effects on students' trust (e.g. cognitive and affective-based trust), also mediator variables. Furthermore, the mediator variables partially mediate social capital and information sharing based on the concept of cognition-affection-behavior (CAB).

Research limitations/implications – This study was limited to Indonesian students. Therefore, future study is needed to analyze across cultures and regions. It can help practitioners, regulators and researchers to observe the dynamic behavior on the impact of social capital on social media users' activities.

Practical implications – Education stakeholders (e.g. lecturers and teachers) can identify the students' goal and rational concerns to improve their social capital and trust to share information. The government as a regulator needs to support students' activities on social media to provide updated information regarding economic and social conditions during and after the COVID-19 pandemic.

Originality/value – This study contributes to the literature on virtual communities. Specifically, it considers how social capital influences trust, which subsequently affects information sharing based on the CAB context among Indonesian student' Facebook users.

Keywords Social capital, Trust, Information sharing, CAB

Paper type Research paper

1. Introduction

Social networking sites (SNSs) have become the most popular virtual communities (VCs) worldwide among students in recent years. They incorporate communication and information tools such as mobile connectivity and information sharing. Thus, they generate a positive attitude toward self-services (Busser and Shulga, 2018; Immonen *et al.*, 2018). Social media has built social capital and trust between students (Hamid *et al.*, 2016). It has encouraged users with diverse backgrounds (i.e. nationality and region) to enhance their personal views by using a common language or sharing multimedia content across Eastern and Western countries to get reciprocal information (Boyd and Ellison, 2007; Junaidi *et al.*, 2020). In some countries, social media have become an essential tool to support the education process during the COVID-19 pandemic toward social capital and trust (Abdur Rehman *et al.*, 2021; Chandra, 2021; Junaidi *et al.*, 2020). It helps students become acquainted with families, friends and strangers and becomes a potent predictor of sharing activities on SNSs (Kim *et al.*, 2015). Students also use social media as a source of information sharing (Osatuyi, 2013; Singh *et al.*, 2019).

Preliminary studies on education and social media have confirmed that organization type and trust are essential in influencing information sharing (Ahmad and Huvila, 2019; Ervasti *et al.*, 2019; Firouzi *et al.*, 2016). According to Ellison *et al.* (2007), Junaidi *et al.* (2020) and Kim *et al.* (2015), besides trust, social capital also has an essential role among users. However, social media's role in enhancing education and information sharing still has pros and cons due to the lack of studies that validate the role of social media on information sharing in the education field. For instance, Abdur Rehman *et al.* (2021) and Mehta and Jha (2021) applied a qualitative approach concluded during the COVID-19 pandemic, India faced limited quality interaction, motivation, class activities and interaction. Hence, we need a strategic approach (e.g. online exchange). Suti and Sari (2021) confirmed social media also had become a crucial tool among students. Similarly, Chandra (2021) teachers and students fear the low quality of online learning. Besides, according to Dahiyat *et al.* (2021), social capital and trust are essential in promoting social media users' interaction (e.g. knowledge). Other scholars argue that students' culture and skills also have a crucial role in sharing information and enhancing the students' active ties in social media (Gholami *et al.*, 2021; Muir and Byrne, 2020; Raza and Awang, 2020). However, they are more prone to knowledge exchange rather than information sharing. Information exchange played a crucial role for most people worldwide during the COVID-19 pandemic and students who moved their activities home. Moreover, social capital, which pursues the students more active in communication and interaction, influences their trust, possibly to improve their ties and trust (e.g. affective and cognitive-based trust), which subsequently affects their information exchange activity.

Students share their information, opinions, personal statuses and propositions to communicate and interact with others. Hence, this study aims to address this gap by examining the role of social capital in trust and information sharing during the empirical study of students during the COVID-19 pandemic. It is essential to understand whether social capital (e.g. cognitive and relational) is a primary factor in students' trust to share information on social media. Abdur Rehman *et al.* (2021), Chandra (2021), Suti and Sari

(2021) and Raza and Awang (2020), in their studies, recommended future research needs to investigate in different cultures and regions in a broader area to obtain clear result students' activities during COVID-19 pandemic in social media. Indonesia had a specific problem during the COVID-19 pandemic, where millions of students shifted their learning process to online since the government decided that schools were indefinitely closed (Pradana and Syarifuddin, 2021). However, social problems such as internet misuse occur among students such as those more prone to spending their time active on social media rather than studying. According to UNICEF (2020), Indonesia's students need to enhance digital learning content and platforms and develop students' digital skills. However, there is relatively little theory-driven empirical research on the actual framework regarding social capital, trust and information sharing in the education context. There is a relationship between organizational social capital and trust based on the social capital theory. Social capital is about the connection and the value derived from community members who gain various resources, such as information sharing (Chang and Chuang, 2011; Junaidi *et al.*, 2020). Hence, investigating students' activities in social media is worthwhile.

It can help us comprehensively achieve a holistic view of the relationship between these variables and give insights to academicians and industry players based on the cognition-affection-behavior (CAB) context. Moreover, prior studies are more prone to validate the correlation between social capital and knowledge sharing than information sharing under normal conditions. Hence, there is a need for a comprehensive study based on the pandemic condition among students on social media. Therefore, this study proposes the following research questions about the relationships among social capital, trust and information sharing:

RQ1. What are the relationships between social capital and trust among students?

RQ2. Does trust (e.g. affective and cognitive-based trust) mediate the relationship between social capital (e.g. cognitive and relational) and information sharing?

To answering these questions, the recent study provides several theoretical and practical contributions. First, it links social capital (e.g. cognitive and relational) and trust (e.g. cognitive and affective) among students with the social capital theory and cognitive affection behavior (CAB) concept. Second, the results from this analysis uncover the relationship among variables and offer a detailed view of the impact on mediator variables that have been neglected in preliminary studies. It can better understand the students' social capital and trust among the COVID-19 pandemic on social media, which influences their attitude and behavior. Finally, this study provides an insight into the existing condition of the current students' activities during the COVID-19 pandemic.

2. Literature review
2.1 Tricomponent attitude model
This study adopts the tricomponent attitude model Rosenberg and Hovland (1960) proposed. Its components include cognition, affection and behavior. A self-regulatory framework investigates the determinants of SNSs users' continuance (Bagozzi, 1992). The relationships among cognition (attribute perceptions), affection (affective responses) and behavior (information sharing) in the education field. Trusting beliefs correspond to trustors' cognitive beliefs from the perspectives of cognitive trust and emotional trust (Komiak and Benbasat, 2006). The competence and honesty of affective-/cognitive-based trust (McAllister, 1995; Yeh and Choi, 2011) represent the affective aspect in the tricomponent attitude model. Chih *et al.* (2015) developed a framework to investigate the tricomponent attitude model and confirmed

that cognitive and affective trust positively influence social media behavior and create a sense of belonging among the users. Sense of belonging influences users' response as an emotional (affective) reaction factor (Lin *et al.*, 2014). Sense of sharing refers to community members who share their emotional connections (i.e. common experiences, history, space and time) with others (Hsu *et al.*, 2016). Thus, it is related to social capital established through interpersonal relationships in VCs. Social capital is affected by trust due to frequent interaction between members for building their relationships (Hsu and Hung, 2013). Hence, social capital conforms to the affection aspect of the tricomponent attitude model. People share their resonance by clicking, discussing, posting and sharing information on SNSs (Shang *et al.*, 2017). Information sharing is an essential consequence of social capital for new knowledge creation in online environments (Hall and Widén-Wulff, 2008). The intention of sharing information is the behavior of the tricomponent attitude. However, most studies have ignored the relationship between affection and behavior from social capital, which plays a major role in the relationship between trust and SNSs members' behavior. Thus, this study proposes an integrated framework to investigate the relationships among cognition (e.g. cognitive and structural social capital), affection (affective-/cognitive-based trust) and behavior (information sharing) for Indonesian students' Facebook users (Table 1).

2.2 Social capital

People contribute with their resources for exchanging or sharing information and collectively resolve problems to maintain quality social relations for mutual benefit (Lu and Yang, 2011). Individuals are more willing to share information if they have high interpersonal relationships with regard to social capital and trust in VCs based on theories of social capital (Chang and Chuang, 2011; Zhang *et al.*, 2017). The actual and potential

No.	Dimension	Description	Components	Source
1	Cognition	Cognitive component exists when an individual processes information about the attitudes that lead to belief perceptual responses verbal statement of belief	Beliefs, knowledge, perceptual responses	Breckler (1984); Eagly and Chaiken (1993).
2	Affection	Affective refers to a component or activity which depends on emotional experience or preference. Both positive and negative feelings that occur with a product/service may arise from positive and negative experiences with the characteristics of this product/ service	Emotional response, reaction or sympathetic activity or verbal reports of feeling or mood such as good and happy	Breckler (1984); Eagly and Chaiken (1993)
3	Behavior	Behavioral component is based on the overt actions that people display in relation to attitude	Actions, intentions and verbal statement from favorable and supportive such as keeping protecting to unfavorable and hostile (e.g. discarding and destroying)	Breckler (1984); Eagly and Chaiken (1993).

Table 1.
CAB dimensions

resources for exchanging or sharing information for individuals within the VCs are intellectual capital or social capital, which includes cognitive and structural (Li *et al.*, 2014; Nahapiet and Ghoshal, 1998). These social capital constructs show interrelated relationships among network members who develop cognition and social interaction with others (Lefebvre *et al.*, 2016) to access specific resources, get jobs or obtain information (Tsai and Ghoshal, 1998). Thus, VCs members interact with others by frequently communicating, gathering and sharing information.

Structural social capital refers to communication and social interaction and builds up the need of accessing resources through social interaction ties among SNSs users (Nahapiet and Ghoshal, 1998). Language sharing and vision sharing are two dimensions of cognitive social capital, including values, attitudes, beliefs and perceptions of support (Lefebvre *et al.*, 2016). Language sharing is about acronyms, subtleties and underlying assumptions, whereas vision sharing refers to sharing the common goals of combining or integrating resources (Lu and Yang, 2011). In turn, those resources that provide shared interpretations, representations and systems of meaning among members are cognitive social capital (Nahapiet and Ghoshal, 1998). People build relationships, spend time socially for interaction and maintain social ties with others through the shared language of cognitive social capital (Lee *et al.*, 2018). They exchange information and ask questions using a common language to increase their abilities to gain accurate, adequate, credible and timely information (Li *et al.*, 2014; Nahapiet and Ghoshal, 1998). In summary, structural social capital is related to social interaction ties, and cognitive social capital is regarded as shared language, norm and vision.

2.3 Trust

Trust includes emotional (affected-based trust) and cognitive (cognitive-based trust) dimensions and plays a major role in social order and harmonious social relationships. Affected-based trust refers to reciprocity about interpersonal care and concern with three salient categories (competence, benevolence and integrity), whereas cognitive-based trust refers to individuals' beliefs about dependability and reliability (Lewis and Weigert, 1985; McAllister, 1985). Affective-based trust plays an essential role beyond cognitive-based trust (Komiak and Benbasat, 2006). Trust and credibility are crucial factors in SNS contexts (Reichelt *et al.*, 2014; Yeh and Choi, 2011), even though more people interact with others on social media. Trust contains affective, cognitive and intended behavior dimensions for maintaining harmonious social relationships based on sociological foundations (Lewis and Weigert, 1985). It enhances people's beliefs and increases their willingness to use information or knowledge because of interpersonal relationships from the perspectives of affective-/cognitive-based trust (McAllister, 1995), specifically in SNSs context (Yeh and Choi, 2011). Affective-based trust involves the emotional and social skills of the trustees. On the other hand, cognitive-based trust is related to competence, benevolence, integrity and emotional trust. Hence, it is possible to mediate the relationship between cognitive and structural social capital, which makes the students more active in social communication and interaction. The effects of different types of trust on community participation, information sharing and opinion exchanges are enhanced by virtual community members in the SNSs context (Ahmad and Huvila, 2019; Hsu *et al.*, 2016). Trust also influences information and knowledge exchange (Youssef *et al.*, 2017) and community identification (Yeh and Choi, 2011). It is an essential factor in the process of information seeking and information sharing and plays a critical engaging role in the knowledge sharing techniques for SNSs members (Lefebvre *et al.*, 2016). This study adopts cognitive-based trust based on Lewis and Weigert (1985) and McAllister (1995) and affective-based trust based on Yeh and

Choi (2011). Hence, trust has a crucial role in bridging the relationship between social capital (e.g. cognitive and structural) and information sharing among students toward communication and interaction. Furthermore, according to Coleman (1988), trust refers to obligations and expectations, which depend on the trustworthiness of the social environment and information-flow capacity. Hence, trust is a component of relational social capital.

2.4 Information sharing

People disseminate information to families, friends and others through information sharing. The effectiveness of information sharing depends on the content and quality of information, which brings considerable practical significance (Junaidi *et al.*, 2020; Yeh and Choi, 2011). The accuracy, adequacy, credibility and timeliness of information determine the quality of information sharing. It has become economically, politically and socially significant to share information and news on social media (Lee and Ma, 2012). Social capital motivates individuals to gather information in social networks and positively influences information sharing on information inflow and outflow (Lee and Ha, 2018). Trust directly or indirectly influences information quality and sharing, a crucial factor in information asymmetry and relational factors such as social capital (Wang *et al.*, 2014). The use of social media such as Facebook increases users' feelings of exchanging information. Virtual community members enhance information sharing and exchange of opinions in the SNSs context.

2.5 Hypotheses development

2.5.1 The relationship between cognitive social capital and trust. People enhance their sharing experiences or values to establish interpersonal relationships with shared vision (cognitive social capital) based on interaction and trust. SNSs users build up their social connections through profiles and statuses based on trustworthiness. Trust is an essential factor in motivating virtual community members to use social technologies. Trust includes cognitive and affective foundations (Lewis and Weigert, 1985) and facilitates collaboration and exchange of information with social media members' sharing values or visions for interpersonal relationships (Tsai and Ghoshal, 1998). Cognitive-based trust originates from the objective appraisal of the other party's key attributes for a trustor, whereas affective-based trust is a trustor's emotional bond regarding the trustee. SNSs users have the same vision when they have cognitive-/affect-based trust and interaction among users. Cognitive-based trust refers to an individual's belief about others' dependability and reliability, whereas affective-based trust relates to reciprocity, such as interpersonal care and concern (McAllister, 1995). Cognitive social capital is the antecedent of cognitive-based trust and affective-based trust by interacting and maintaining the relationship of SNSs users. Thus, this study proposes the following hypotheses:

H1a. Cognitive social capital has a positive effect on cognitive-based trust.

H1b. Cognitive social capital has a positive effect on affect-based trust.

2.5.2 The relationship between structural social capital and trust. The relationship between structural social capital and trust occurs on the premise that social interaction plays a crucial role in common goals and values between individuals and allows them to share experience, information and knowledge (Tsai and Ghosal, 1998). The idea of social communication and interaction is to develop trust (e.g. cognitive-based and affective-based trust) and establish information sharing. Social interaction helps individuals to learn

organizational cultures and values. Facebook users develop their shared cognition through social interaction. Furthermore, the social interaction ties of structural social capital stimulate reciprocity and trust (Tsai and Ghoshal, 1998). The frequent communication and interaction among Facebook users allow them more accessible access to more information to evaluate their abilities, behavior and intentions. Frequent social interaction influences SNSs members' benefits and triggers the development of trust. It also enhances regular social interaction, and sharing more information with others creates a more reciprocal relationship. Hence, this study proposes the following hypothesis:

H2a. Structural social capital has a positive effect on cognitive-based trust.

H2b. Structural social capital has a positive effect on affect-based trust.

2.5.3 The relationship between trust and information sharing. Trust is an interpersonal relationship among people based on motives and honesty of speech toward ability, benevolence and integrity (Firouzi *et al.*, 2016). It has essential factors to create collaboration among students as positive outcomes such as information sharing, especially when using social media (Curado and Vieira, 2019; Ervasti *et al.*, 2019). The communication and interaction among students on social media to enhance possibly their relationships with others to expect mutual benefit (Ellison *et al.*, 2007; Hamid *et al.*, 2016). Preliminary studies concluded trust positively affects information sharing by directly writing posts, responding to others' posts, providing links to sources or uploading a source (Ahmad and Huvila, 2019; Singh *et al.*, 2019; Özer *et al.*, 2011). Hence, the students share information to work together in discussing the concepts and ideas (Su and Chan, 2017). Trust also possibly to bridge social interactions and reduces complexity among people (Lewis and Weigert, 1985). Hence, trust can develop a collaborative partnership and strengthen users' relationships through common goals or similar characteristics on SNSs.

This study also considers trust (e.g. cognitive and affective based) mediating role when examining the relationship between social capital (e.g. cognitive and structural) and information sharing. Social capital has an important role during the learning process, including the COVID-19 pandemic. Students' communities with high social capital have more positive and efficient responses rather than low social capital. Prior studies found a strong correlation between social capital and trust, which influences their students' performance (Ahmed *et al.*, 2020) and information exchange activity in social media (Junaidi *et al.*, 2020; Noprisson *et al.*, 2017; Salimi *et al.*, 2022; Selvarajah and Ali, 2021). However, trust also has a crucial role in strengthening students' interaction, communication and information exchange (Koranteng *et al.*, 2020; Wiafe *et al.*, 2020). Hence, the recent study possibly enhances the quality of inferences, bridges access to information and knowledge and provide substantial contributions. Hence, we propose the following hypotheses:

H3a. Cognitive-based trust has a significant and positive effect on information sharing.

H3b. Affective-based trust has a significant and positive effect on information sharing.

H3c. Cognitive-based trust mediates the relationship between cognitive social capital and information sharing.

H3d. Affective-based trust mediates the relationship between cognitive social capital and information sharing.

3. Methodology

3.1 Questionnaire design, pretest and pilot study

This study conducts a pretest and pilot test to validate all the measurement items'. The measurement items of this questionnaire are modified to fit the research context. The research framework is shown in Figure 1.

3.2 Measures

The items of all constructs are presented in Table 2. A seven-point Likert scale anchored between 1 ("strongly disagree") and 7 ("strongly agree") was used for all scale items. Measurement of cognitive social capital and structural social capital were adapted from Lu and Yang (2011) with four and six items for each construct. Yeh and Choi (2011) adapted cognitive-based trust and affective-based trust, with six items for each construct. Information sharing was adapted from Junaidi et al. (2020) with seven items.

3.3 Sample and data collection

This study investigates users' cognition, affection and behavior regarding the relationships among cognitive and structural social capital, cognitive-based trust, affective-based trust and information sharing on Facebook, which is the most popular social media in Indonesia with 130 million users, followed by Instagram with 56 million users (Statista, 2018). In addition, most Indonesian Facebook users are young people between 19 and 34 years old, with 49.52% (Detik, 2017). The target population for the recent study is Indonesia' students. This study directly collects data online and applies Google Docs (https://drive.google.com). This study conducts an online survey from March 1 to May 30, 2021. Out of the 475 collected samples, 398 valid ones indicated a completion rate of 83.79%. Table 3 shows the respondent demographics.

3.4 Common method variance

To prevent and reduce the bias issue, this study adopts common method variance (CMV). It pursues the participants to fill up the questionnaire anonymously, randomly arranges measurement items and hide the label of constructs to reduce respondents' concerns when they reply to the questionnaire (Podsakoff et al., 2003). As far as postdetection, this study applied Harman's single-factor test proposed by Eichhorn
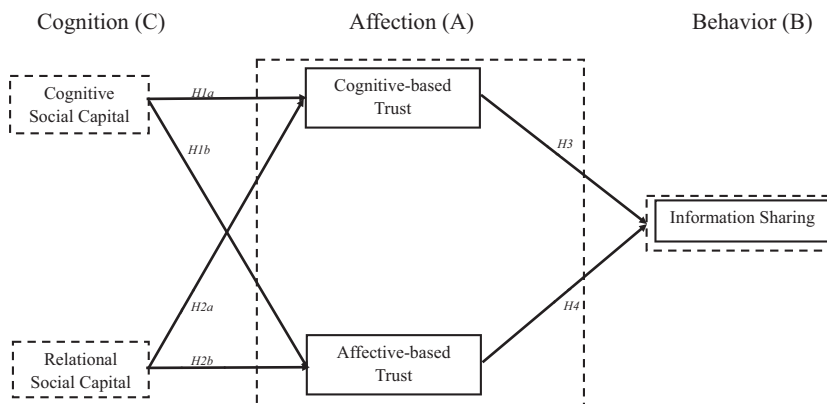

Figure 1.
Proposed research model

Variables, sources and item scales	Definition
Cognitive social capital (CSC) (Lu and Yang, 2011) 1. When interacting, I and other students use common terms or jargon 2. During the discussion, I and other students use mutually-understandable communication patterns 3. When communicating, I and other students use mutually-understandable narrative forms 4. I and other students care about the same issues 5. I and other students have common goals toward the social media 6. I and other students understand each other	Cognitive relates to the subjective interpretations of shared understandings such as shared codes, value, belief, goals, vison and narrative
Structural social capital (SSC) (Lu and Yang, 2011) 1. I and other students have frequent communication with each other 2. I and other students know at a personal level 3. I and other students maintain close social relationships 4. I and other students spend a lot of time interacting with each other	Structural social capital refers to the presence of a network of access to students and resources such as roles, rules, precedents and procedure
Cognitive-based trust (CBT) (Yeh and Choi, 2011) 1. I and other students have relevant skills when discussing particular topics 2. I and other students have relevant knowledge when discussing particular topics 3. I and other students provide professional knowledge when discussing major topics 4. I and other students have the expertise to advance the community discussions 5. I and other students provide feedback after discussions 6. I and other students possess the capability to accomplish tasks (e.g., suggestions)	Cognitive-based trust is built on perceptions and self-interest as it pertains to performance and accomplishments through direct dealings with a student
Affective-based trust (AT) (Yeh and Choi, 2011) 1. I and other students increase the interaction between users 2. I and other students do not intentionally interfere in discussions with malevolence 3. I and other students promote understanding between users 4. I and other students help other members within their capabilities 5. I and other students treat other members fairly (honestly) 6. I and other students do not behave in a consistent manner	Affective-based trust is based upon an emotional bond that often tends to go beyond a student relationship or prior knowledge of performance

(*continued*)

Table 2.
Research
instruments

Variables, sources and item scales	Definition
Information sharing (ISH) (Junaidi *et al.*, 2020) 1. I and other students clearly explain what the information in Facebook 2. I and other students give proper information 3. I and other students provide necessary information so can perform her/his duty 4. I and other students answer related questions 5. I and other students expect to share information 6. I and other students intend to share information in the future 7. I plan to share information regularly	Information sharing is the voluntary act of making information possessed by one student available to another students

Table 2.

Demographics	Frequency	(%)	Accumulated %
Gender			
Male	128	32.2	32.2
Female	270	67.8	100.0
Age			
Under 26 years old	339	85.2	85.9
26–40 years old	44	11.1	96.2
41–55 years old	15	3.8	100.0
Education			
Bachelor	307	77.1	77.1
Master and PhD degree	91	22.9	100.0
Range time use FB			
Below 5 years	97	24.4	24.4
6–10 years	247	62.1	86.4
Over 10 years	54	13.6	100.0

Table 3.
Respondent demographics

(2014) and the common latent factor (CLF). The explained variance of the first factor is 38.21% which is less than 50.00%. Besides, the factor loading of CLF was 0.46, which indicated a 0.21% variance of CMV. The exploratory facor analysis result shows no significant problem of CMV of the data.

4. Results
A structural equation modeling (SEM) was used to test the proposed model and the previously stated hypotheses. This study applied the two-stage approach and referred to Anderson and Gerbing (1988). First, the measurement model is assessed with CFA to test the reliabilities and validities of the research constructs. Then, the structural model is used to test the strength and direction of the proposed relationships among research constructs, including the hypothesized model.

4.1 Measurement model
This study conducted a measurement model by adopting the AMOS software with maximum likelihood estimation. The model fit showed how well a CFA model reproduces

the covariance matrix of the observed variables. The measurement model showed adequate fit (Anderson and Gerbing, 1988; Gefen *et al.*, 2000): χ^2/df = 1.802, goodness-of-fit index (GFI) = 0.810, comparative fit index (CFI) = 0.921 and root mean square error of approximation (RMSEA) = 0.063. Table 4 shows the composite reliabilities (CR) and an average of variance extracted (AVE) for each construct are above 0.830 and 0.502, demonstrating a reasonable degree of internal consistency between measurement items and

Constructs	MLE estimates factor loading/ measurement error		Squared multiple correlation (SMC)	Composite reliability (CR)	Average of variance extracted (AVE)	Cronbach's α
Cognitive social capital				0.858	0.502	0.866
CSC1	0.710	0.496	0.504			
CSC2	0.706	0.502	0.498			
CSC3	0.698	0.513	0.487			
CSC4	0.718	0.484	0.516			
CSC5	0.714	0.490	0.510			
CSC6	0.705	0.503	0.497			
Structural social capital				0.831	0.551	0.807
SSC1	0.767	0.412	0.588			
SSC2	0.729	0.469	0.531			
SSC3	0.726	0.473	0.527			
SSC4	0.747	0.442	0.558			
Cognitive-based trust				0.881	0.553	0.890
CBT1	0.764	0.416	0.584			
CBT2	0.774	0.401	0.599			
CBT3	0.750	0.438	0.563			
CBT4	0.771	0.406	0.594			
CBT5	0.747	0.442	0.558			
CBT6	0.649	0.579	0.421			
Affective-based trust				0.881	0.553	0.880
ABT1	0.789	0.377	0.623			
ABT2	0.736	0.458	0.542			
ABT3	0.783	0.387	0.613			
ABT4	0.736	0.458	0.542			
ABT5	0.659	0.566	0.434			
ABT6	0.750	0.438	0.563			
Information sharing				0.897	0.555	0.903
ISH1	0.761	0.421	0.579			
ISH2	0.815	0.336	0.664			
ISH3	0.741	0.451	0.549			
ISH4	0.719	0.483	0.517			
ISH5	0.739	0.454	0.546			
ISH6	0.704	0.504	0.496			
ISH7	0.730	0.467	0.533			

Table 4.
Analysis of
measurement model

their corresponding constructs. In addition, each item loads significantly on its respective construct with factor loadings and square multiple correlations of all measurement items were above 0.5 and 0.3, as well as the Cronbach's α for all constructs, were larger than 0.7 indicating a good reliability for all measurement items, constructs and convergent validity (Anderson and Gerbing, 1988). Table 5 indicates the adequate discriminant validity of this study.

4.2 Structural model

The fit of data to the proposed model was adequate [13]: $\chi^2 = 1,009.149$, df = 962, χ^2/df = 1.375, GFI = 0.865, nonnormed fit index = 0.875, CFI = 0.962, incremental fit index = 0.963 and RMSEA= 0.035. The results showed support for all of the five research hypotheses as shown in Table 3. This study empirically validates that cognitive social capital has significant effect on cognitive-based trust ($\gamma_{11} = 0.239, p < 0.001$), aective-based trust ($\gamma_{12} = 0.507, p < 0.001$), respectively, supporting H1a and H1b. Structural social capital also has crucial role on cognitive-based trust and affective-based trust ($\gamma_{31} = 0.255, p < 0.001; \gamma_{32} = 0.227, p < 0.001$), respectively, supporting H2a and H2b. This study further confirms that cognitive-based trust and affective-based trust have a significant and positive effect on information sharing ($\beta_{31} = 0.230, p < 0.005; \beta_{31} = 0.252, p < 0.001$). H3a and H3b are supported. Table 6 shows the results of research hypotheses (Figure 2).

4.3 Mediation effect

This study used confidence intervals for bootstrapping method with 5,000 simulations to test the mediation effects of trust to bridge social capital and information sharing. Bootstrapping is a nonparametric statistical procedure in which the data set is repeatedly

| Constructs	Mean	SD	CSC	SSC	CBT	ABT	ISH
CSC	5.88	0.64	0.744				
SSC	5.89	0.58	0.422**	0.743			
CBT	5.03	0.90	0.536**	0.548**	0.712		
ABT	5.55	0.70	0.527**	0.514**	0.623**	0.709	
ISH	5.53	0.70	0.577**	0.521**	0.677**	0.749**	0.745

Table 5.
Correlation matrix for measurement scales

Notes: CSC: cognitive social capital, SSC: structural social capital, CBT: cognitive-based trust, ABT: affective-based trust, ISH: information sharing, SD: standard deviation, diagonal elements are the square roots of the AVE for each construct, Pearson correlations are shown below the diagonal, significant at *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$

	Paths			Path coefficients	Hypotheses	Test results
γ_{11}	Cognitive social capital	$\rightarrow$	Cognitive-based trust	0.239***	H1a	Supported
γ_{12}	Cognitive social capital	$\rightarrow$	Affective-based trust	0.507***	H1b	Supported
γ_{31}	Structural social capital	$\rightarrow$	Cognitive-based trust	0.255***	H2a	Supported
γ_{32}	Structural social capital	$\rightarrow$	Affective-based trust	0.227***	H2b	Supported
β_{31}	Cognitive-based trust	$\rightarrow$	Information sharing	0.230**	H3	Supported
β_{32}	Affective-based Trust	$\rightarrow$	Information sharing	0.252***	H4	Supported

Table 6.
Proposed model results

Notes: Significant at *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$
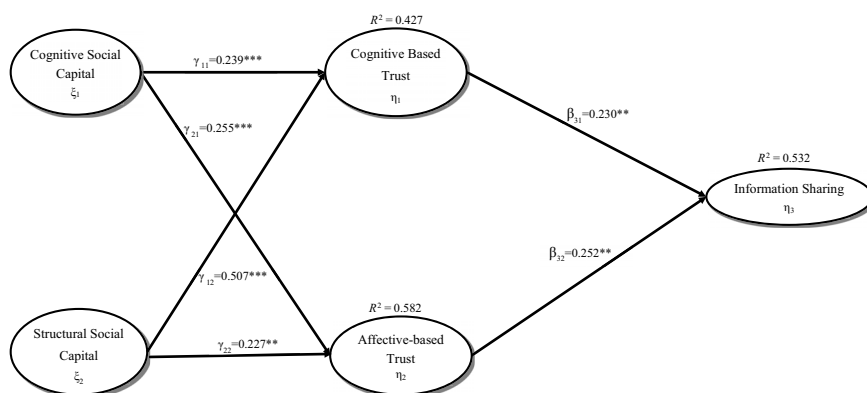
Notes: Model fit: $\chi^2 = 935.775$; df = 661; χ^2/df = 1.416; GFI = 0.960; NFI = 0.876;
CFI = 0.952; IFI = 0.963; RMSEA= 0.032

Figure 2.
Structural model

sampled (Hayes, 2018). Table 7 shows that all the percentile methods and bias-corrected
confidence intervals do not include zero, indicating the mediation effects of affective-/
cognitive-based trust. Furthermore, the results show that cognitive-/affective-based trust is
a partial mediator between social capital (e.g. cognitive and structural) and information
sharing. Hence *H3c* and *H3d* are supported.

5. Discussion
5.1 Key findings
This study adopted the C-A-B model to investigate the relationships between cognitive and
structural social capital, cognitive-/affective-based trust and information sharing activity
among students on Facebook. The results were consistent with the findings of prior studies
in education and Facebook contexts (Hamid *et al.*, 2016; Lee and Ha, 2018; Osatuyi, 2013).
The findings support our hypotheses that social capital is an antecedent of cognitive-based
trust and affective-based. The recent study also proves cognitive-/affective-based trust
significantly and positively affects information sharing. Interpersonal relationships play an
essential role in information sharing among students on Facebook. Social capital
strengthens the positive effects of users gathering information when interacting with their

IV	M	DV	IV->DV (c)	IV->M (a)	IV+M->DV (c')	M(b)	Bootstrapping 95% CI	
							Percentile method	Bias-corrected
CSC	CBT	ISH	0.528***	0.414***	0.422***	0.638***	[0.036, 0.144]	[0.037, 0.146]
Standard error (SE)			0.034	0.033	0.032	0.032		
CSC	ABT	ISH	0.528***	0.490***	0.409***	0.705***	[0.334, 0.611]	[0.341, 0.623]
Standard error (SE)			0.034	0.037	0.036	0.034		
SSC	CBT	ISH	0.637***	0.387***	0.501***	0.705***	[0.334, 0.611]	[0.341, 0.623]
Standard error (SE)			0.032	0.039	0.038	0.034		
SSC	ABT	ISH	0.633***	0.553***	0.279***	0.729***	[0.487, 0.676]	[0.618, 0.782]
Standard error (SE)			0.031	0.038	0.035	0.030		

Notes: *p<0.05; **p<0.01; ***p<0.001

Table 7.
Mediation effects

friends. The cognitive factors (cognitive and relational social capital) and affective (cognitive-based trust and affective-based trust) are antecedents of information sharing. It is crucial to accurately disseminate interaction attitudes to students through social connections between social media users. This result overthrows the communication methods and patterns of traditional interaction.

5.2 Theoretical contributions

Social capital (i.e. cognitive and structural social capital) influences trust (i.e. cognitive-based trust and affective-based trust), which subsequently affects behavior response (information sharing) in a social media context. This study provides theoretical contributions to the literature on virtual community management in several ways. First, by extending prior research findings in education contexts (Lee and Ma, 2012; Cheung *et al.*, 2011), our research findings demonstrated how social capital and trust impact students' information sharing in VCs (i.e. Facebook). Our study examined the dimensions of social capital (i.e. cognitive and structural) that affect student trust users', which subsequently influence information sharing on Facebook. Second, our research confirms the suitability of the C-A-B framework in explaining the relationships among social capital, cognitive-/affective-based trust and information sharing on Facebook among students. The results directly support Cheung *et al.* (2011) and Ellison *et al.* (2007) that Facebook provides a platform for social communication and interaction in the education context.

5.3 Practical implications

Our research highlights the practical implications for virtual community management. The findings suggest that social capital, trust and information sharing have an important role in supporting the education process. These activities include encouraging students to share experiences and opinions through sharing information. Education stakeholders should be aware that the essential components of interactivity include a great deal of user control and effective two-way communications among students. Compared with traditional SNSs, Facebook is a platform that users use for socialization and information exchange. Furthermore, regarding the managerial implications, the study results demonstrate that social media, lecturers, university leaders or practitioners should focus on the major dimensions of social capital and trust to maximize students' positive communication and interaction, and prevent fake information on social media.

5.4 Limitations and future research directions

Our research contains a few limitations. First, we conducted a cross sectional survey to examine actual use behaviors when the participants were surveyed. A longitudinal study can help researchers observe the interactivity effects of students and social media users' dynamic use behavior on Facebook. Second, we only considered information exchange's situational factors (i.e. cognitive and structural social capital). Previous research has shown that Facebook users' experiences affect their behavior to connect and interact through common interests and values and on attitudes and content types. Future research should investigate factors that moderate interactivity effects. Third, our study considered the perspective of social capital and trust instead of using a virtual community from beneficiary relationships. Future researchers may examine the antecedents of Facebook use intentions from a knowledge-sharing behavior perspective. Other mediators may regulate the effectiveness of the interaction, such as information quality, perceived usefulness and source credibility for social media users. These mediators may influence the relationships among attitudes toward the interaction, review credibility and social influence for social media

users. Future research should examine various mediators. Moreover, these studies only focused on Indonesian users. Future research should investigate other countries' users to confirm the external validity of this study.

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Further reading

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