

Information and source credibility towards information adoption amongst upper secondary school students

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How to Cite This Article: Srimulyo, K. & Halim P., A. (2021). Information and source credibility towards information adoption amongst upper secondary school students. *Jurnal Studi Komunikasi*, 5(1). doi: 10.25139/jsk.v5i1.3204

Received: 14-11-2020,
Revision: 25-11-2020,
Acceptance: 07-12-2020,
Published online: 16-02-2021

Abstract The purpose of this study was to determine the extent to which the information quality and source credibility affect the use and the process of information adoption, especially among upper secondary school students as Twitter users who are prone to hoaxes and fake news. Research subject and method: The stratified sample was 100 upper secondary school students in Surabaya who used Twitter and had read or followed threads. The respondents were asked questions to test their dependence on Twitter and their social media behaviour that affected the information adoption process. Information quality has a significant effect on usability, in contrast to source credibility which does not affect the usefulness of information; however, these two dependent variables have a strong relationship which intervenes in the information adoption process among upper secondary school students.

Keywords: adoption information model; twitter; social media

INTRODUCTION

The development of technology fosters a speedy circulation of information, especially in this digital era. Various social media have been created to meet communication and information needs, including Twitter (Castillo et al., 2011). It is a renowned microblog in which the users can post an entry called 'tweet' (Go et al., 2009). It has been

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said that Twitter has been actively used by 300 million users in 2020 (Irena & Erwin Budi Setiawan, 2020). A tweet is a quick and easy way for users to express themselves. On Twitter, every user is allowed to put forward their opinions, leave comments on other users even when they do not know one another in real life, and create a 'thread'. Literally, a 'thread' means a sequence or an order. On Twitter, a thread stands for a sequence of continuous tweets. Twitter used to limit the number of characters a user can type to tweet to 280 characters only. However, with its latest feature of thread, users can now compose their opinions in subsequent tweets. This feature becomes a phenomenon on Twitter as many people now have more access to discuss numerous topics and obtain in-depth information from threads even though the accuracy of the information is not guaranteed.

Social media such as Twitter are a medium for socialising with others and is done online, allowing users to interact with one another without being limited by space and time. This gives freedom and minimal restrictions that make children and adolescents addicted and, in more severe cases, to have excessive anxiety (Al-Daihani & Alhaji, 2018; Watie, 2016). Social media and network are chambers of aspirations from people of various generations with unconditional participation, starting from early childhood, adolescents, adults and seniors, all can join and interact with one another. The ease of communicating is indeed one of the social media's advantages (Kietzmann et al., 2011; Power, 2014).

Everyone on Twitter has been granted freedom of speech regardless of their professions and fields of expertise. However good, this freedom inflicts novel problems in the circulation of the information: the circulation's credibility and speed. Consequently, many hoaxes or fake news spring up on Twitter, mainly related to new information (Vosoughi et al., 2018). On top of that, it has been said that Twitter is closely linked to depression among teenagers or adults caused by the rising number of hoaxes. Previous studies suggested a correlation between these two variables; people with symptoms of depression tend to choose Twitter than Instagram or Facebook (Jeri-Yabar et al., 2019). The underlying factor can be the uncontrollable speed of information circulation and Twitter's trending topic feature. Therefore, it is believed that Twitter is the platform widely used to lead certain opinions towards an issue.

The fast pace of information circulating on Twitter is not accompanied by information accuracy or usefulness, thus decreasing the information quality and source credibility. The information quality and source credibility are related to the process of information adoption, especially among teenagers whose judgement, whether or not the source of information is verified, is unjustifiable. In 2015 to 2016, *Stanford History Education Group (SHEG)* conducted research to determine people's ability to judge the source credibility through

gadgets. This research was carried out towards teenagers in 12 different countries. Throughout the year, it could be said that the teenagers were not able to assess the information they retrieved from the internet. This inability resulted from how difficult it was to identify the source of information (Donald, 2016).

The key to finding solutions to the problem of source credibility is to adopt information carefully. Social media have taken over conventional ones, such as books, and have raised some big questions: is the information on social media credible? Can the information they carry provide any useful solutions for their users? Are the information quality and the source credibility counted as the users' matters in adopting the information, especially from Twitter? Therefore, information adoption becomes crucial in assisting people to find solutions for their problems.

The truth/validity of various information on social media like Twitter or Facebook is often difficult to verify (Shariff et al., 2017; Yang et al., 2019). In general, two parameters can be used to assess the information's credibility (Kriscautzky & Ferreiro, 2014). A piece of information can be judged credible, firstly, if it is well-written and systematic, and secondly, if its existing content answers all of the criteria being inquired. On the other hand, five factors are required for a piece of information on social media Facebook to be judged credible or not, namely Medium Independence, Interactivity, Medium-Transparency, Argument Strength, and Informativeness (Li & Suh, 2015).

Three main instruments affect the adoption of information: information quality, source credibility and information usefulness (Sussman & Siegal, 2003). Other studies also found that information adoption was significantly influenced by the factors, such as the quality of an argument, the source credibility, and the strength of social media information. These are the determining factors for the customers in adopting within the realm of online communication. It also includes communication from a community (C2C) (Zhu et al., 2016). Considering the information quality and its source's credibility during the process of adopting information will assign more meaning to it. Nevertheless, the teenagers in the previous study - Stanford History Education Group (SHEG), could not verify the source of information that might have led to them reading fake news or hoaxes. Teenagers or students are susceptible to fake news and hoaxes because they are the primary users of social media, and they do not possess the ability to verify the source of information (Donald, 2016).

Twitter started as a microblogging platform released in 2006 by Jack Dorsey (Boyd et al., 2010). It offers a simple layout presenting information in writing, leading it to be known as a blog and microblog (Taprial & Kanwar, n.d.). Today, it has developed into a popular and widely-used social medium. Many of its users are teenagers who own gadgets and have access to the internet. Twitter attracts much

attention because many national and international issues are discussed there, and some of the issues have become what are called by Trending Topics. Followings are some reasons why people prefer to use Twitter (Putra, 2014), 1) Accessibility: Twitter does not provide too many features, which makes it easier to navigate the application, even for beginner users. This convenience reduces the number of errors made by the users; 2) Broader range: Twitter has a broad interaction range regardless of areas nor mutual friends, like Facebook or Instagram; 3) Instant following: The users of Twitter can follow whomever they want to follow without any limitation by merely clicking the follow button as long as they are not blocked by the person they are trying to follow; 4) Rapidness: Twitter is famous for its fast-pace of circulation of information. Twitter sets out a limit on the number of characters the users can write in a post so the users can decide whether to post their thoughts separately or continuously as a thread; 5) RSS Reader-supported: Really Simple Syndication or RSS is an application enabling the users to share the information from a website or an online platform onto Twitter without requiring them to sign in on Twitter; 6) Interactivity: It is very easy for the users to interact with other users; they can respond to tweets by replying to them or retweeting the opinions, even without having to follow the one who writes the opinions (as long as the account is not a private one); 7) Application development: Since it was first published, many supporting applications have been developed, such as TweetCaster, Twitterific, Summize, Twhirl, TweetDeck, Twidere, TwitPane, etc. Each application has distinct features and layouts depending on their users' preferences; 8) Cost advantage: Twitter has minimum use of videos and photos on it, making it more straightforward and not taking up too much internet data. Considering those advantages provided, Twitter has many loyal users.

Information Quality describes one's perspective in perceiving the level of positivity or negativity of a piece of information. In their book "*Management Information System*", Mcleod (2008) listed four dimensions needed to add value to I-12 information: relevance, accuracy, actuality and comprehensiveness. However, Bailey and Pearson (1983) cited in Sussman & Siegal (2003) explained that the quality of information could be measured by referring to three factors: completeness, consistency, and accuracy. In this research, information quality refers to the level of positivity and negativity of information posted on a thread and how the information is presented, whether or not it is straightforward. Meanwhile, Bailey and Pearson's model was used as the measurement indicator of information quality used in this research considering that this research was conducted based on the information adoption model formulated by Sussman & Siegal (2003).

Information Credibility is a valuable factor for a piece of information. A source of information is credible when composed and delivered by a capable informant (Castillo et al., 2011). Similar to

students listening to their teacher because the knowledge or information presented is deemed trustworthy and true, information credibility works the same way. However, it depends on the users' judgment whether or not the information, especially the one from a thread, can be trusted in this digital era. Wu and Shaffer (1987) in research from Sussman & Siegal (2003) mentioned two dimensions to measure source credibility: 1) competence-based judged from the knowledge and the level of expertise, and 2) trustworthiness-based judged from the reliability of the source. It is linked to this current research that the I-13 source credibility refers to the extent of trustworthiness of a thread for upper secondary school students.

Information adoption is the extent of how people accept and believe that the information they obtain is meaningful (Zhu et al., 2016). As an individual sets out an intention to adopt a technology or behaviour, he also sets out the same intention in adopting information in the forms of ideas and certain behaviours (Sussman & Siegal, 2003). In this research, information adoption refers to how the students of senior upper secondary schools in Surabaya implement certain expected behaviours based on the information they retrieved from threads. Sussman and Siegal (2003) explained that students adopt the information because they believe it has meaning and contributes to their successes. Indicator variable in this research also refers to I-14 of Sussman & Siegal (2003) that includes intention, motivation, and consent towards doing the expected behaviours cited in the information.

Information usefulness is related to how information can be accepted and understood by the readers, thus instilling usefulness and problem-solving assistance. There are three indicators to measure perceptions towards information usefulness: valuable, informative and helpful (Sussman & Siegal, 2003). What it means by valuable is when information has value and is useful. Factual information makes it informative for its readers, and when the information can assist, it will be beneficial for those who need it. In this research, the information presented on threads has particular usefulness for senior upper secondary school students. The indicator variable from Sussman & Siegal (2003) is utilised in conducting this research.

Having considered those problems, some questions are proposed. First, does the source credibility of a piece of information affect senior upper secondary school students' information usefulness? Source credibility is a form of verification towards a piece of information, so it is critical to address how the users consider the source credibility in using the information. Second, does the quality of the information affect its use for senior upper secondary school students? Quality of information is a form of filter that can positively and negatively affect the users. Determining the quality of the information and its effect on the users plays an important role in identifying whether the information usefulness will be adopted.

Moreover, this study's last question is: does the information usefulness affect the adoption of information? These questions are directed to young Twitter users, specifically those who use threads as one of the sources of information.

METHODOLOGY

This study used the quantitative approach with explanatory research style, which aims to draw a clear A as to why a phenomenon occurs and describe the causality. Followings are the variables used within this research: the first variable is the independent variable (X), which is the variable that causes the emergence of dependent variables (Prod, 2017). This research's independent variables are the information quality (X1) and the source credibility (X2). The second variable is the dependent variable (Y), which is the variable affected by the independent variable (Prod, 2017). The dependent variable of this research is the adoption of information (Y). Furthermore, the third variable is the intervening variable, which is the variable that influences the relationship between the independent and the dependent variables (Prod, 2017). The intervening variable (Z) of this research is the information usefulness.

Unaradjan & Sihotang (2019) stated that to understand relative events, distributions, and relationships between variables. A survey should be conducted towards a big or small population; however, the data obtained is the population sample. This research was conducted in Surabaya, one of the metropolitan cities in Indonesia, in which the majority of the students have access to social media. The exact number of senior upper secondary school students who use Twitter cannot be determined (non-probability sampling); thus, purposive sampling (Unaradjan & Sihotang, 2019) was employed to represent the population by establishing the number of respondents as many as 100 students. Followings are the criteria used to choose the respondents: 1) he/is a senior upper secondary school student; 2) he/she uses Twitter; 3) he/she has read any threads on Twitter.

The criteria were established in order to obtain respondents who were relevant to the research aim. Indonesians have been known to be keen on using social media such as Twitter and Facebook. Furthermore, they are currently the most significant number of Twitter users so that Indonesia has been nicknamed "the world's most active 'Twitter city' and 'Twitter Nation,'" whereas for Facebook it is the third most prominent users in the world (Morissan, 2020).

It was not feasible to conduct offline research and interviews, so to gauge respondents, the researchers broadcasted online questionnaires on several social media to reach out for more respondents and ensure that the respondents come from different areas of Surabaya. The data were processed quantitatively in three stages, as follows: 1) Editing (double-checking to ensure thorough information from the respondents); 2) Coding (or assigning particular codes onto each

submitted questionnaire to make it easier for data analysis to be done); and 3) Tabulating (inputting data into provided tables)

As a quantitative study, the obtained data were processed by using the Likert scale. After finalising the class intervals and categories, data were analysed using SPSS version 22 and AMOS version 20. SPSS was used to describe the data, while AMOS was utilised in the path analysis test process to identify the relationships between variables along with the validity, reliability test, and expediency of the model.

The validity test is done by comparing the p-value in the AMOS program display with alpha 5%. Therefore, if the p-value is less than 5%, the indicator is declared valid (Ghozali, 2013). Furthermore, if the p-value is more than 5% or 0.05, the indicator is declared invalid and removed from the variable indicator. For the reliability test, the value is said to be reliable if the value contained in Contract Reliability (CR) is >0.7 (Ghozali, 2013). The last is the expediency of the model, done by a single measurement, from which the results were obtained from the output produced by the AMOS version 20 program and were concluded by comparing the results of the analysis with the predetermined cut-off value.

RESULT AND DISCUSSION

Based on the findings, Twitter is dominated by female users of senior upper secondary school age (71%) from various senior upper secondary schools in Surabaya. As many as 35% of the users are 17 years old, while 31% of them are 18. These percentages are in accordance with the percentage of users based on school grades: 49% of the users are in grade 12, while 32% are the students of the 11 grade.

Most of the students use Twitter to obtain information daily. It is evident from the highest percentage obtained for the category of daily usage; 58% of the respondents chose 'Every day' and 44% of the respondents answered that they used Twitter 1 to 2 hours per day. Twitter provides a wide range of information related to diverse topics that the respondents need; the topics include, but not limited to, economy, education, lifestyle, health and other interesting topics. The validity of all of the data obtained from the questionnaires was tested using AMOS version 20. The test was performed by comparing p-value of the output presented on AMOS with 5% alpha (see Table 1).

Based on the data presented in table 2, out of all processed variables, one indicator of a variable has got a p-value exceeding the set standard. It is indicator X1.4 gaining 0.48; therefore, it was decided that this variable be omitted from the information quality variable (X1), and the test was recounted.

Table 1. Validity Test of the Data Obtained

Variable			P-value	Notes
Information quality	1.1	1		Valid
	1.2	1	***	Valid
	1.3	1	0.02	Valid
	1.4	1	0.48	Not Valid
Source credibility	2.1	2		Valid
	2.2	2	***	Valid
	2.3	2	0.01	Valid
	2.4	2	0.00	Valid
	2.5	2	0.02	Valid
Information usefulness	1.1			Valid
	1.2		***	Valid
	1.3		***	Valid
Information adoption	1.1			Valid
	1.2		***	Valid
	1.3		***	Valid

Source: Data processed, 2020

Table 2. Result of the Recounted Validity Test

Variable			P-value	Notes
Information quality	1.1	1		Valid
	1.2	1	***	Valid
	1.3	1	0.02	Valid
Source credibility	2.1	2		Valid
	2.2	2	***	Valid
	2.3	2	0.01	Valid
	2.4	2	0.00	Valid
	2.5	2	0.02	Valid
Information usefulness	1.1			Valid
	1.2		***	Valid
	1.3		***	Valid
Information adoption	1.1			Valid
	1.2		***	
	1.3		***	Valid

Source: Data processed, 2020

Variable X1.4 was omitted during the second administration of the validity test. The result shows no significant difference in the p-value of each indicator to the first ones. Nonetheless, the overall result is less than 0.05 or 5%.

P-values written with *** symbols obtain very low scores, each of which is less than 0.05 or 5%. Based on that result, it is concluded that all components of the questions in each tested variable are valid.

This is proven by the significance value that is less than 5% or <0.05 (Ghozali, 2013).

Reliability test was conducted following the validity one. It aimed at highlighting the consistency of the measurement tools that were used. This test was administered by looking at the indicators' overall results using Construct Reliability (CR) given that the acquired value was not less than 0.7 (Ghozali, 2013). Construct Reliability is measured by using this following formula:

$$CR = \frac{(\sum \text{std. loading})^2}{(\sum \text{std. loading})^2 + \sum \epsilon_j}$$

The equation illustrates that construct Reliability is acquired by measuring the Standard Loading Variable, Measurement Error and Construct Reliability. Standard Loading Variable is determined by referring to the estimated result of the measurement on AMOS version 20. The following is the result of Standard Loading Variable. The table explains that each variable has a different value. The variable of the information quality has 1.77, while the source credibility scores 2.31. The values for information usefulness and information adoption are 2.03 and 2.22, respectively (see Table 3).

Table 3. Standard Loading Variable

Variable	The Values of Standard Loading Indicator					The Values Standard Loading Variables
	1	2	3	4	5	
Information quality	0.91	0.54	0.32			1.77
Source credibility	0.61	0.65	0.37	0.40	0.28	2.31
Information usefulness	0.90	0.57	0.56			2.03
Information adoption	0.70	0.85	0.67			2.22

Source: Data processed, 2020

Measurement error was the second step that attempted to find the value of measurement error. The measurement error can be seen in the following table, which presents the value of information quality variable 1.78, the value of source credibility 3.83, the information usefulness 2.18, and the value of information adoption 1.34 (see Table 4).

Table 4. Measurement Error Table

Variables	Value of Standard Loading Variables ²					Value of Measurement Error
	1	2	3	4	5	
Information Quality	0.17	0.71	0.90	-	-	1.78
Source Credibility	0.63	0.58	0.86	0.84	0.92	3.83
Information Usefulness	0.81	0.68	0.69	-	-	2.18
Information Adoption	0.51	0.28	0.55	-	-	1.34

Source: Data processed, 2020

The third step in reliability test was counting Construct Reliability by using the formula mentioned previously. Referring to the following table, it is found that all variables show results of more than 0.7, so it can be concluded that the variables used in this study are reliable (see Table 5).

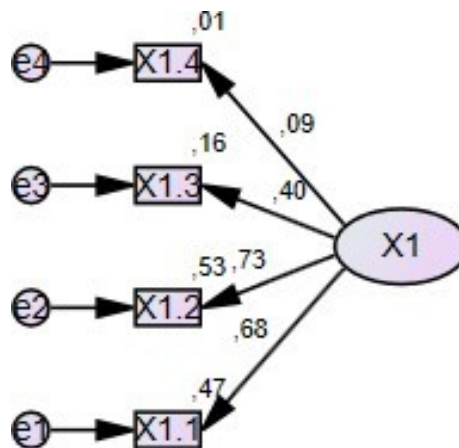
Table 5. Construct Reliability Table

Variables	Standard Loading ²	Standard Loading ²	Measurement Error	Construct Reliability	Information
Information Quality	3.13	3.13	1.78	1.57	Reliable
Source Credibility	5.35	5.35	3.83	1.71	Reliable
Information Usefulness	4.12	4.12	2.18	1.53	Reliable
Information Adoption	4.95	4.95	1.34	1.27	Reliable

Source: Data processed, 2020

After the reliability test, the model eligibility test was conducted by implementing Single Measurement Model. The results of Single Measurement Model were obtained from the output of AMOS version 20. Then, the results were concluded by comparing the analysis results with a cut off value determined previously. The following is an illustration of the Single Measurement Model results (see Figure 1).

Figure 1. Single Measurement Variable X1



Source: Data processed, 2020

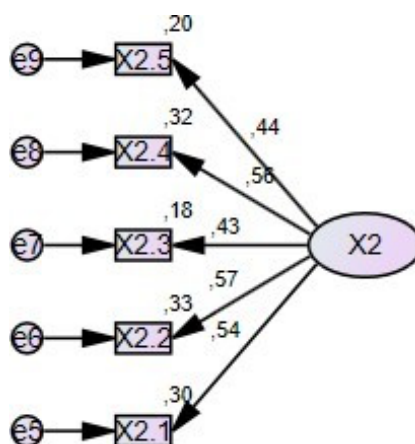
On the output of AMOS version 20, the results of Goodness of Fit Indices are found in variable X1 (Information Quality) which can be seen in the following table. Based on the table, it is found that one statement indicates as 'not fit', while the other four indicate as 'fit'; therefore, it is concluded that variable X1 (Information Quality) is fit because almost all of the results indicate as 'fit', especially for the value of Chi-square (see Table 6).

Table 6. The goodness of Fit Indices Variable X1 Table

Goodness of Fit Indices	Cut off value	Analysis Results	Variable Information
Chi-square (df=2)	< 5.991	1.601	Fit
Probability	> 0.05	0.449	Fit
RMSEA	< 0.08	0.000	Fit
GFI	> 0.90	0.992	Fit
AGFI	> 0.90	0.960	Not fit

Source: Data processed, 2020

Figure 2. Single Measurement Variable X2



Source: Data processed, 2020

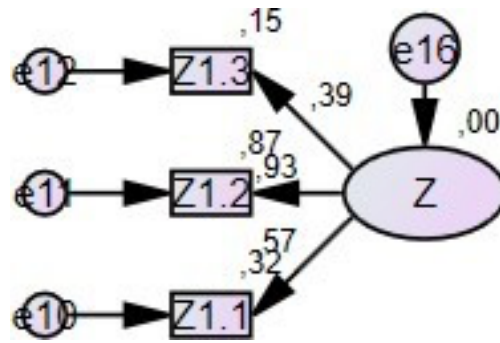
On the output of AMOS version 20, the results of Goodness of Fit Indices are also found in variable X2 (Source Credibility) which can be seen on the following table. Based on the table, it is found that two statements indicate as 'not fit', while the other three indicate as 'fit'. Referring to Haryono and Wardoyo's statement (2015), for a model to be seen as feasible, at least one of the eligibility tests is met (fit). Therefore, in relevance to that, variable X2 (Source Credibility) is considered 'fit' (see Table 7).

Table 7. The goodness of Fit Indices Variable X2 Table

Goodness of Fit Indices	Cut off value	Analysis Results	Variable Information
Chi-square (df=5)	< 11.070	12.784	Not Fit
Probability	> 0.05	0.025	Fit
RMSEA	< 0.08	0.125	Not Fit
GFI	> 0.90	0.951	Fit
AGFI	> 0.90	0.854	Fit

Source: Data processed, 2020

Figure 3. Single Measurement Variable Z



Source: Data processed, 2020

The following table is the output of AMOS version 20, which shows the *Goodness of Fit Indices* for variable Z (Information Usefulness) (see Table 8).

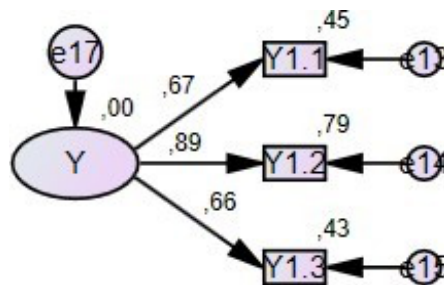
Table 8. The goodness of Fit Indices Variable Y Table

Goodness of Fit Indices	Cut off value	Analysis Results	Variable Information
Chi-square (df=0)	< 0.000	0.000	Fit
Probability	> 0.05	0.000	Not Fit
RMSEA	< 0.08	0.000	Fit
GFI	> 0.90	1.000	Fit
AGFI	> 0.90	0.000	Fit

Source: Data processed, 2020

Based on the output of AMOS version 20 in the table above, it can be seen that variable Y (information adoption) is considered fit because the results mostly show 'fit'.

Figure 4. Single Measurement Variable Y



Source: Data processed, 2020

Above is a figure of single measurement variable y. If we look at the output of AMOS version 20, it is found that the results of the Goodness of Fit Indices for variable Y (Information Adoption) are fit because mostly the results state fit (see Table 9).

Table 9. The goodness of Fit Indices Variable Y Table

The goodness of Fit Indices	Cut off value	Analysis Results	Variable Information
Chi-square (df=0)	< 0.000	0.000	Fit
Probability	> 0.05	0.000	Not Fit
RMSEA	< 0.08	0.000	Fit
GFI	> 0.90	1.000	Fit
AGFI	> 0.90	0.000	Fit

Source: Data processed, 2020

After the models were tested one by one towards each variable, a comprehensive test was conducted. Several methods were used to test the comprehensive method: 1) Chi-Squares Statistic test; 2) Root Mean Squares Error of Approximation; 3) Goodness of Fit Index; Adjusted Goodness of Fit Index; and 4) Root Mean Squares Residual.

A model is considered eligible if at least one of the model's eligibility test methods is met (Siswoyo, 2012). The following is the calculation result table made with AMOS (see Table 10):

Table 10. Model Eligibility Table

Method	Cut off value	Analysis Results	Model Evaluation
Chi-square (df=54)	< 84.502	42.483	Fit
Probability	> 0.05	0.871	Fit
RMSEA	< 0.08	0.000	Fit
GFI	> 0.90	0.945	Fit
AGFI	> 0.90	0.892	Not fit
RMSR	-	-	-

Source: Data processed, 2020

The output from AMOS does not show any RMSR calculation. In the same result, there is also one calculation whose value exceeds the predetermined cut off value; therefore, one statement indicates 'Not Fit', while the other five values indicate 'Fit', which is in accordance with the cut off value that has been determined. Based on the results, it can be concluded that this research model can be and is wholly eligible.

After determining that all variable indicators are valid, and the existing variables are reliable and eligible, a path analysis was conducted in two stages: direct and indirect effects. The following is the table obtained from the calculation results conducted on AMOS version 20.

Table 12. Direct Effects Table

Direct Effect	Significant Value	Effect information
Z □ X1	***	Effect found
Z □ X2	0.87	No effect
Y □ Z	0.03	Effect found

Source: Data processed, 2020

Based on the calculation table above, it is found that the variable X1 (information quality) has a significant effect on variable Z (information usefulness), proven by a very small p-value (***) . It means that the existing information quality influences the information to be considered as more useful. The direct effect is different for variable X2 (source credibility) to variable Z (information usefulness), which shows that the calculation result is greater than 0.05, which is 0.87. This means that the source credibility does not affect people on assuming information usefulness. On the other hand, this is also different for the effect of variable Z (information usefulness) on variable Y (information adoption) which is indicated by the p-value of 0.03 (see Table 12). This means information usefulness is an important reason for people to adopt information. The more useful the information is, the more likely it is to be adopted by users. Information that is important to others, but if it is deemed not to be instrumental to students, it is unlikely that that piece of information will be adopted. Rational considerations in assessing the usefulness of information are what determine students adopt any piece of information.

Besides the direct effects, there are also indirect effects which can be seen from the calculation results in the following Table 13:

Table 13. Indirect Effects Table

Indirect Effect	Significant Value	Effect Information
X1 □ Z □ Y	0.18	Effect found
X2 □ Z □ Y	0.01	Effect found

Source: Data processed, 2020

In the calculation of Indirect effects using AMOS version 20 above, it can be found that variables X1 and X2 have the effects on variable Z. This is proven by the calculation results below 0.05. It also means that variable Y can mediate the two variables X1 and X2. The results obtained from the calculation above will conclude the hypothesis test that has been proposed. First, the information quality obtained by upper secondary school students in Surabaya affects information usefulness (H1₀ is rejected, and H1_i is accepted). This is proven by the p-value less than 0.05. These findings confirm the information adoption model proposed by Sussman and Siegal (2003) which states the same thing, that information quality is one of the determinants of whether the information can be considered as useful or not.

The same thing is also proven by studying food reviews on social media (Pal et al., 2019). In that study, it is confirmed that the quality of reviews (positive reviews) on the website is positively related to the perceived information usefulness. The readers would assume information usefulness reviewed by the reviewers using the content of the review provided. Many results show that there is a positive relationship between information quality and information usefulness (Atika et al., 2017). Referring to the findings above, it can be seen that the information quality obtained on Twitter threads affects upper

secondary school students in Surabaya upon deciding whether the information is useful or useless. The content of Twitter threads will be new for students in Surabaya on deciding the information usefulness. This means that students will consume not all information on Twitter because it depends on the thread's quality.

Furthermore, the source credibility does not affect information usefulness ($H2_0$ is accepted, and $H2_i$ is rejected) as indicated by the p-value greater than 0.05. This means that the information usefulness among upper secondary school students in Surabaya is not affected by the information sources' credibility. This result is not in accordance with previous research results, which state that the source credibility has a significant effect on information usefulness (Pal *et al.*, 2019; Sussman & Siegal, 2003). For those students, the information they receive and consume from Twitter does not necessarily have to be truthful or credible – it only depends on whether that information is purposive or beneficial for those students. Even when a thread on Twitter is inaccurate or identified as a hoax, students will still consume that information as long as it is entertaining and amusing.

Referring to the proving results, it can be concluded that upper secondary school students in Surabaya do not use the source credibility to decide whether the information they get from Twitter threads is useful or useless. This tendency justifies the statement that young Twitter users are vulnerable objects to consume hoaxes and fake news. Unlike other Internet users who possess the critical literacy and will continuously evaluate whether the information they consume is classified as credible, for students, what is essential is the usefulness of the information itself for themselves. Compared to measuring and applying critical literacy to assess and select which information is suitable for consumption, what is more important is the usefulness of the information.

Of the several things that affect the information, information usefulness is according to information adoption ($H3_0$ is rejected, and $H3_i$ is accepted). It is indicated by the result of the p-value, which is smaller than 0.05. It means that upper secondary school students in Surabaya have a significant tendency to accept the information they assume to have useful values. This result also confirms previous studies stating that information usefulness has a significant effect on users' decisions to adopt information (Atika *et al.*, 2017; Sussman & Siegal, 2003).

Referring to the findings, it can be determined that the information usefulness assumed by students using Twitter in Surabaya affects their decision to adopt the information. This study also finds that the information usefulness mediates the information quality and the source credibility towards adopting the information. In other words, $H4_0$ is rejected, and $H4_i$ is accepted. This is indicated by the p-value less than 0.05. These findings confirm previous findings that state that both variables, the information quality and the source credibility, affect

information adoption mediated by the perceived information usefulness (Atika et al., 2017; Pal et al., 2019; Sussman & Siegal, 2003). It means that the information adoption implemented by upper secondary school students in Surabaya is affected by the information quality and the source credibility by using the information used as the mediator.

Although a piece of information contains interesting things to read, it will probably be neglected if it does not come from a credible source; more so if the information is considered useless for the students. In the booming of the massive development of information, the most important factor for the students is not the content of the information, but the credibility and the accuracy of it. This study's results have confirmed those of Pal et al., (2019) who claim that the most important thing is the credibility of the source from which the information originates.

CONCLUSION

It is undeniable that the viral information on Twitter has a significant effect on adopting the information by upper secondary school students in Surabaya. The data show that students have a relatively high Twitter use intensity. Referring to the implemented results of the data analysis, several conclusions can be drawn as follows: First, it is known that the information quality variable affects the information usefulness. This means that upper secondary school in Surabaya students' assumptions affect the usefulness of the information obtained from Twitter. Second, the source credibility variable affects the information usefulness variable. This means that verified sources do not influence upper secondary school students in Surabaya to decide to use that information. Third, it is also known that the information usefulness variable has a significant effect on the information adoption variable.

The use of Twitter threads affects Surabaya's students' adoption of information in their everyday life. Furthermore, finally, it is known that in this study, the influence of the information quality and the source credibility on the information adoption is mediated by the intermediate variable, namely the utility variable. This shows the indirect effect of the information quality and the source credibility on the information adoption by upper secondary school students in Surabaya. Based on this conclusion, further research is recommended to explore sources of credible information that is considered reliable among upper secondary school students in Surabaya.

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