

Examining the mediating effect of consumer attitudes on the relationship between consumer-to-consumer communication and online purchase intention: Evidence from Malaysia

Muhamad Izaidi Ishak¹, Amran Harun^{1,2}

¹Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia

²Institute For Social Transformation and Regional Development, Universiti Tun Hussein Onn, Malaysia

Corresponding author: gp180042@student.uthm.edu.my

ABSTRACT

Most internet users in Malaysia still have doubts about pursuing online purchases, primarily due to their attitude and perception toward online transactions. Addressing this issue, the purpose of this study is to examine how consumer attitude mediates the relationship between consumer-to-consumer communication and online purchase intentions. The contribution of this study was made by the employment of a new factor in consumer-to-consumer communication, namely product knowledge. Argument quality, source of credibility, and tie strength were other consumer-to-consumer communication factors examined in this study. Approximately 200 Malaysian internet users participated in this study. The quantitative data analysis was conducted beginning with a descriptive analysis using the Statistical Package for Social Science (SPSS) version 21.0. The path analysis, specifically Partial Least Squares Structural Equation Modeling (PLS-SEM), was performed using SmartPLS version 2.0. The findings revealed that consumers' online purchase intention was positively affected by consumer-to-consumer (C2C) communication factors, particularly argument quality and source of credibility. This study discovered that C2C communication factors, namely argument quality, source of credibility, and tie strength, have a positive direct effect on consumer attitudes. Surprisingly, consumer attitude fully mediates the relationship between C2C communication factors and online purchase intention, namely tie strength and product knowledge. Thus, these empirical findings lead to helpful insights for marketers or online retailers to define the factors of C2C communication that have a substantial effect on consumer attitudes and online purchase intentions as well as increase understanding of the mediating effect of consumer attitudes on this relationship.

Keywords: consumer-to-consumer communication; online purchase intention; online community; online transaction

1.0 Introduction

E-commerce is one of the lucrative sectors in Malaysia which contributes to the development of Malaysia's economy. Indeed, Malaysia's internet retail transactions were recorded to be close to RM1.8 billion in 2011, which is a 70 percent increase over the previous year (Marketing Interactive.com, 2011). As the number of Internet users expands daily, the value is predicted to increase to RM22.6 billion by 2020 (Malaysian Communication & Multimedia Commission, 2015). It shows the importance of the e-commerce industry to Malaysia's economy. Thus, a study related to online purchases is important to be conducted.

Meanwhile, there are numerous online communities, like social media networks (e.g., YouTube, Facebook, Whatsapp, and Twitter), blogs, and forums, which are established in the online environment. In fact, internet users use the online community to communicate with each other

for social or commercial purposes (Zhu, Chang & Luo, 2015). Due to this opportunity, many companies have also started to incorporate social media as their new marketing tool to reach their prospects (Deepa & Deshmukh, 2013; Kim, Li & Brymer, 2016). For instance, a study by Deepa & Deshmukh (2013) found that 87 percent of the 100 largest firms in the Fortune 500 use at least one of the social media networks for their marketing platforms, as most consumers tend to use the internet in their daily lives. It indicates that, for many purposes, online communities are important to today's communication world.

However, there is an issue in which young people of generation Y are unwilling to do online shopping (San, Omar & Thurasamy, 2015; Jin et al., 2015). They actually do not really trust the online purchasing process (e.g., security, website payment gateway) (Dhanapal et al., 2015). For instance, a study by Dhanapal et al. (2015) found that consumers are doubtful about online shopping because of the risk of using credit cards for payment. In their study, Jin et al. (2015) found that the majority of undergraduate and postgraduate students (i.e., generation Y) in Malaysian public universities had a moderate level of online purchasing attitude. In other words, they will pursue online purchases only if they think positively about it. It shows that younger generations are hesitant to make online purchases. Thus, this discussion points out that there is a crucial issue with regard to trusting online purchases among the internet users in Malaysia, especially the younger generation.

Due to that issue, the current study suggests online retailers or companies define consumer-to-consumer (C2C) communication factors in order to enhance online purchase intentions among internet users in Malaysia. C2C communication relates to the transfer of data (i.e. information) from one consumer (or set of customers) to another consumer (or set of customers) in a way that has the ability to change their opinions as well as their real purchase behavior, or the way in which they communicate with others (Libai et al. 2010, pp. 269). There are four (4) C2C communication factors employed in this study, which are argument quality, source of credibility, tie strength, and product knowledge (new factor). The inclusion of a new factor, namely product knowledge, in the C2C model is the contribution of the current study. Indeed, it is crucial to include this factor because the previous study by Wang & Hazen (2016) in the context of the re-manufactured product (i.e., rebuilding product) found that the knowledge of quality products (i.e., perceived value) had a positive effect on the purchase intention of the re-manufactured product. Furthermore, consumer product knowledge indicates the level of consumer awareness of the product on the market (Brucks, 1985; Lin & Chen, 2006). Consumers who are more aware of the specific product would have a greater tendency to purchase the product when it is available on online platforms. As a result, prior consumers' product knowledge may enhance consumers' online purchase intentions during communication with other consumers. Due to the important effect of product knowledge on online purchase intention, it was included in the C2C model in this study.

2.0 Literature review and hypotheses development

2.1 Online purchase intention

Theoretically, Ajzen (1991) described the intention as the extent of the deliberate effort that the person will make to allow his/her behaviour. It's one of the motivational components of the behavior. In the context of e-commerce, the purchase intention can be described as a scenario where people wish to buy a product or service through online platforms (e.g., retail sites, social media, and forums) (Liat & Wuan, 2014). Pavlou (2003) described the online purchase intention as a scenario in which the customer is prepared and intends to engage in online transactions. Zuroni & Ling (2012) described online purchase intention as a willingness to buy products and services from traders selling on the Internet. George (2004) indicated that the online purchase intention was to buy goods, services, and data via the online platform. Accordingly, the above

definitions have shown that the individual's intention to buy online is to make a true purchase on online platforms, and this definition has been used in the current study.

2.2 Consumer attitude

In an absolutely essential textbook, Eagly & Chaiken (2007, pp. 582–602) defined attitudes as the "psychological inclination expressed by assessing a specific entity with a certain degree of favour or disfavour." Irianto (2015) described the attitude as 'the extent to which a person has a good or bad judgement of the behaviour concerned'. Thus, in the current study, the consumer attitude applies to either a favourable or an adverse evaluation of the individual when making an online purchase.

Previous studies have found a positive relationship between consumer attitude and online purchase intention (Wu, 2003; Das, 2014; Baber et al., 2015; Aqila et al., 2016; Hung, Kok & Verbeke, 2016). For instance, a study by Wu (2003), which looked at the attitude of online consumers towards online shopping, discovered that consumer attitude towards online shopping had an important effect on online shopping decisions. Baber et al. (2015) studied electronic word-of-mouth, attitudes, and purchase intentions and found that such attitudes had an important effect on the consumer's purchase intention. Aqila et al. (2016) examined the relationship between consumer attitude and online purchase intention and found that consumer attitude has a significant positive relationship with online purchase intention. A study by Hung, Kok & Verbeke (2016) on processed meat products found that there was a significant positive influence between consumer attitude and purchase intentions. On the grounds of the above argument, the current study was taken as follows:

H1: Consumer attitude has a positive effect on the intention to purchase online.

2.3 Consumer-to-consumer (C2C) communication factors

There are four (4) C2C communication factors employed in this study: argument quality, source of credibility, tie strength, and product knowledge. The next subsection discusses these factors in more detail.

2.3.1 Argument quality

Petty (1981, pp. 850) classified argument quality as a powerful version of the message provided with nuanced proof (e.g., statistics, information, etc.). However, the poor version of the message relied more on quotes, personal views, and examples to back up its stance. In other words, powerful arguments are meant to generate favourable cognitive and emotional reactions to the message, while poor arguments are meant to lead to counter-argumentation and usually negative reactions to the message. Zhu et al. (2015) described argument quality as the persuasive force of the statements inserted into the details of the product or service message. Persuasive is the proper term used to determine argument quality because persuasiveness is the ultimate outcome of C2C communication. Thus, in the current study, the definition of argument quality is the information provided by the message that offers persuasive clues that will affect other consumers' intentions towards online purchase behaviors.

In terms of effect, previous studies discovered that argument quality had a positive effect on purchase intention (Erkan & Evans, 2016; Lee, 2009). For instance, a study done by Erkan & Evans (2016) in the field of social media marketing found that argument quality had a direct positive effect on online purchase intention. Lee (2009) studied online customer reviews and discovered that one of the main predictors of customer purchasing intention is argument quality. It demonstrates that argument quality has a positive relationship with online purchase intention.

Previous studies have also shown that argument quality has been found to have a positive relationship with the consumer's attitude. For example, a study by Zhang et al. (2013) observed that argument quality will determine the persuasive strength of the information gathered, which plays an important role in shaping attitudes or changing attitudes. Zhu et al. (2015) and Eagly & Chaiken (1993) argued that argument quality was one way to obtain persuasive information that would influence the creation of attitudes. Reimer & Hall (2003) also found in their study that argument quality has a persuasive influence on individual attitudes. On the basis of the above statements, therefore, argument quality may have a positive effect on the online purchase intention and the consumer attitude. The following hypotheses are suggested:

H2: Argument quality has a positive effect on online purchase intention.

H3: Argument quality has a positive effect on consumer attitude.

2.3.2 Source of credibility

Credibility relates to a person's perception of the reality of a piece of data (i.e., information) (Eisend, 2006), as well as the enterprise or its agents (e.g., sales people) as a source of data. Eisend (2006) mentioned that the source of credibility is a significant component, such as individual honesty, professionalism, and attraction, which can boost the consumer's perception of the information given. Zhu et al. (2015) interpreted a source of credibility as the degree to which the consumer is viewed as a source of information to be believable, capable, and dependable to the other consumer who has obtained the information. The source of credibility in this study relates to the extent to which the consumer is considered to be credible, skilled, and trustworthy.

Mohd Suki (2014) studied the effect on attitudes and purchase intentions of celebrity credibility. The study discovered that the credibility of a celebrity is specifically a matter of competence; the congruent and physical attractiveness of product branding has a significant effect on the product's purchasing desire. According to Eisend (2006), credibility has an effect on the attitude, intention, and behaviour of message recipients. Erkan & Evans (2016) also found that credibility has a positive effect on the intention to purchase online. Another study by Baber et al. (2015) discovered that if the message or data source is credible from the listener's point of view, the information provided will affect their future purchase decision. Previous studies have shown that the credibility aspect is crucial in influencing the purchase intention of the consumer.

Moreover, it has also been discovered that a source of credibility has a positive effect on consumer attitude. A study by Cheung & Tadani (2010) on the effectiveness of electronic word-of-mouth, discovered that there is a positive relationship between the source of credibility and consumer attitude development. The study also found that the source of credibility in the communication study is the most frequently studied communicator-related factor. Therefore, the source of credibility may have a positive effect on the intention of online purchasing and consumer attitude. The following hypotheses are suggested:

H4: The source of credibility has a positive influence on the intention to purchase online.

H5: The source of credibility affects consumer attitudes positively.

2.3.3 Tie strength

A tie is described as the set of social relationships between two or more people (Wang & Chang, 2013). Wang & Chang (2013) further indicated that if a connection is characterised as a "weak tie," then people are only acquaintances or peers who are unfamiliar with each other. Alternatively, if the tie is distinguished as a strong tie, then people are friends who understand each other well. Granovetter (1973) identified tie power as a mixture (likely linear) of moments, emotional intensity, intimacy (mutual confidence), and reciprocal services that would personify

the bond. Zhu et al. (2015) noted that tie strength is the closeness and frequency of a consumer-to-consumer relationship that joins community communication. The present study therefore defined it as the closeness of interaction between consumer-to-consumer (C2C) communications in online communities.

Stanko, Bonner & Calantone (2007) stated that a positive relationship exists between tie strength and purchaser commitment as well as the effect of commitment on purchaser behaviour (e.g., purchase intention). Stanko et al. (2007) stated that there are several properties of tie strength, which are reciprocal services, mutual trust, and emotional intensity. While emotional intensity is the most important factor that influences the seller-buyer relationship (Stanko et al., 2007), A study done by Koo (2015) on social networking online recommendations found that tie strength would have a direct effect on consumer purchase intentions. Wang & Chang (2013) recently discovered that product information and recommendations provided by close-knit friends will have a stronger effect on their online purchasing intentions compared to information provided by poor-knit friends.

Furthermore, tie strength has also been found to have a positive relationship with consumer attitude, as studied by Koo (2015) and Cheung & Thadani (2010). The study explained that the interplay between tie strength, review valence, and the type of service would affect the attitudes and intentions of consumers. Cheung & Thadani (2010) also found a direct relationship in their study between tie strength and consumer attitude. As a result, tie strength may have a positive influence on online purchase intention and consumer attitudes. Thus, the following hypotheses are suggested:

H6: Tie strength positively influences online purchase intentions.

H7: Tie strength positively influences consumer attitudes.

2.3.4 Product knowledge

Brucks (1985) interpreted product knowledge as the awareness of particular product information by a consumer. Marks & Olson (1981) stated that product knowledge can be addressed as product-related information gathered in consumer memory, such as brand information, product information, features, evaluations, decision heuristics, and usage situations. The definition used in this study to describe product knowledge is the awareness of specific product information by the consumer about brands, products, attributes, assessment, heuristic decisions, and use situations.

Product knowledge is important and has been examined in prior studies (Burton et al., 2009; Karimi, Papamicail & Holland, 2015). For instance, a previous study by Karimi et al. (2015) studying the effect of product knowledge on the intention to purchase online found that online users with a high level of product knowledge would make faster purchase decisions than users with a low level of product knowledge. Burton et al. (2009) have shown that product knowledge has the greatest effect on consumer purchasing behaviour. A study by Wang & Hazen (2016) came to find that product knowledge in the context of the refurbished product had a positive effect on purchase intention. Therefore, past studies show a positive relationship between product knowledge and the intention to purchase.

Moreover, it has also been shown that product knowledge has a positive effect on consumer attitudes. A positive connection between product knowledge and consumer attitudes has been found by Juharsah & Hartini (2014), who studied product knowledge in the context of ethnocentrism towards Buton traditional weaving. Another study by Berger, Ratchford & Haines (1994) found a positive relationship between product knowledge and consumer attitude in the context of a sustainable product. As a consequence, product knowledge may have a positive

effect on the intention of online shopping and consumer attitude. suggested the following hypotheses:

H8: Product knowledge positively affects the intention to online purchase.

H9: Product knowledge positively affects the attitudes of consumers.

2.4 The mediating effect of consumer attitude on the relationship between C2C communication factors and online purchase intention

The C2C communication factors employed in this study are argument quality, source of credibility, tie strength, and product knowledge. Previous studies have shown that consumer attitude may mediate the relationship between C2C factors (e.g., quality of argument, tie strength, source of credibility, and product knowledge) and online purchase intention. Reimer & Hall (2003), for instance, discovered that the C2C factor communication (i.e., argument quality) had an important positive effect on the creation of attitudes and consumer behavior. Zhang et al. (2013) stated that the C2C factors (i.e., argument quality) will determine the persuasive power of the information obtained as well as play a significant role in the creation of attitudes that eventually influence consumer behaviour (e.g., intention to purchase). According to a study conducted by Lafferty and Goldsmith (1999), C2C factors, specifically source of credibility (i.e., corporate credibility), have a greater effect on consumer attitudes and purchase intentions than credibility endorsement. This implies that when the business supplying the information is extremely credible, customers have a strongly favourable attitude towards purchasing a product (Lafferty & Goldsmith, 1999). In other words, consumer attitude can mediate the relationship between the source of credibility and online purchase intention.

A study by Koo (2015) showed the mediating effect of consumer attitudes on the relationship between the C2C factor (i.e., tie strength) and purchase intention. Koo (2015) stated that consumer attitudes completely mediated the effects. The study clarified that a positive recommendation from family members and friends, meaning the use of positive suggestions from individuals with powerful personal links, is intended to improve purchasing intention mediated by attitudes. Another study of typical Buton crafts in the Bau-Bau society conducted by Juharsah & Hartini (2014) discovered that consumer attitude has an important mediating effect on the relationship between product knowledge and purchasing behaviour (i.e., purchasing intention). Consequently, from the above statements, the following hypotheses are taken as follows:

H10: The mediating effect of consumer attitudes on the relationship between argument quality and online purchase intention

H11: The mediating effect of consumer attitudes on the relationship between the source of credibility and online purchase intention.

H12: The mediating effect of consumer attitudes on the relationship between tie strength and online purchase intention

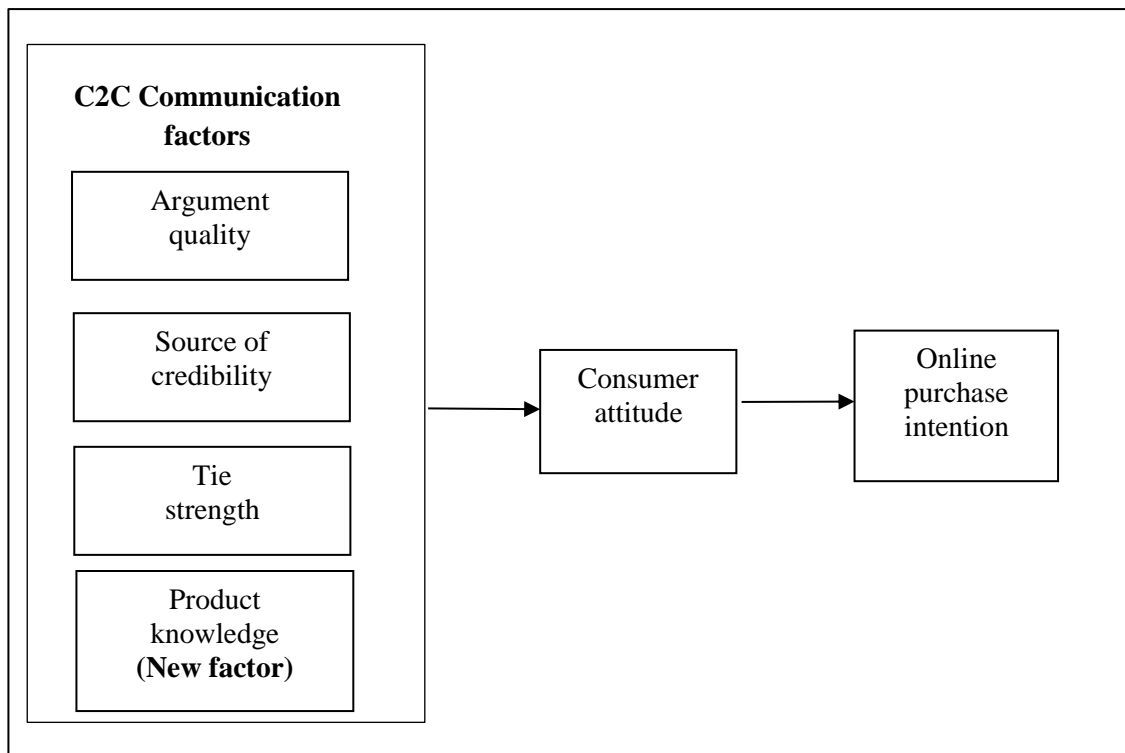
H13: The mediating effect of consumer attitudes on the relationship between product knowledge and online purchase intention.

3.0 Methodology

Data collection was performed by distributing questionnaires to Internet users aged 18 and over who have previous experience with C2C communication on online platforms (e.g., social media). The data was collected using a structured questionnaire starting with Part A, consisting of questions about the respondent's experiences of prior C2C communication and the intention to make an online purchase. Part B included questions on the variables measured in this study. The measurements (questionnaires) for online purchase intention, argument quality, source of

credibility, and tie strength were adapted from Zhu et al. (2015). For product knowledge, the measurement items were adapted from Brucks (1985), Lin & Chen (2006), and Marks & Olson (1981). While measurement items for consumer attitude were adapted from Chiu, Lin & Tang (2005) and Taylor & Todd (1995a,b). The items have been modified in the current study to enhance the respondents' understanding. The measurement scale used was a five-point Likert scale that was anchored between "strong disagreement" and "strong agreement." Finally, Part C gathers the demographic details of respondents, including gender, marital status, age, educational level, occupation, and average monthly income. The Statistical Package for the Social Sciences (SPSS) version 21.0 was used for descriptive analysis, and Smart PLS version 2.0 was used for further path analysis. Figure 3.0 presents the framework for the current study.

Figure 3.0: Current study conceptual framework



Source: Adapted from Zhu et al. (2015)

4.0 Result and findings

4.1 Demographic profiles

This study involved a total of 200 respondents. A descriptive analysis of the respondents' population information disclosed that over half of the participants were female (71%), while the remaining 29% were male respondents. Most participants are married (53%), 46.5% are single people, and 0.05% are divorced or separated people. Approximately 52.5% of respondents were between 26 and 35 years of age, 12.5% were between 36 and 50 years of age, 33.5% were between 18 and 25 years of age, and the remaining 1.5% were between 51 and older. On average, 37.5% of respondents earned between RM0–RM1000, 17.5% earned between RM2001–RM3000, and 10% earned between RM4001–RM5000.

4.2 Measurement model

The current study model was analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS version 2.0. Figure 4.2 shows the model used for the current study. The aim of the measurement model assessment is to evaluate the reliability and validity of measures before proceeding to the structural model assessment for hypotheses testing. Based on the output of the PLS algorithm in Figure 4.2 and Table 4.2, the constructed AVE value varies from 0.591 to 0.828, with all values exceeding 0.50 and meeting Hair et al. (2009) criteria for discriminant validity. Meanwhile, the reliability of measures used in the current model meets the minimum threshold value of Cronbach alpha of 0.70 as suggested by Hair et al. (2009). It shows that the current study measurement model has been established.

Figure 4.2: PLS Model Graph (Algorithm)

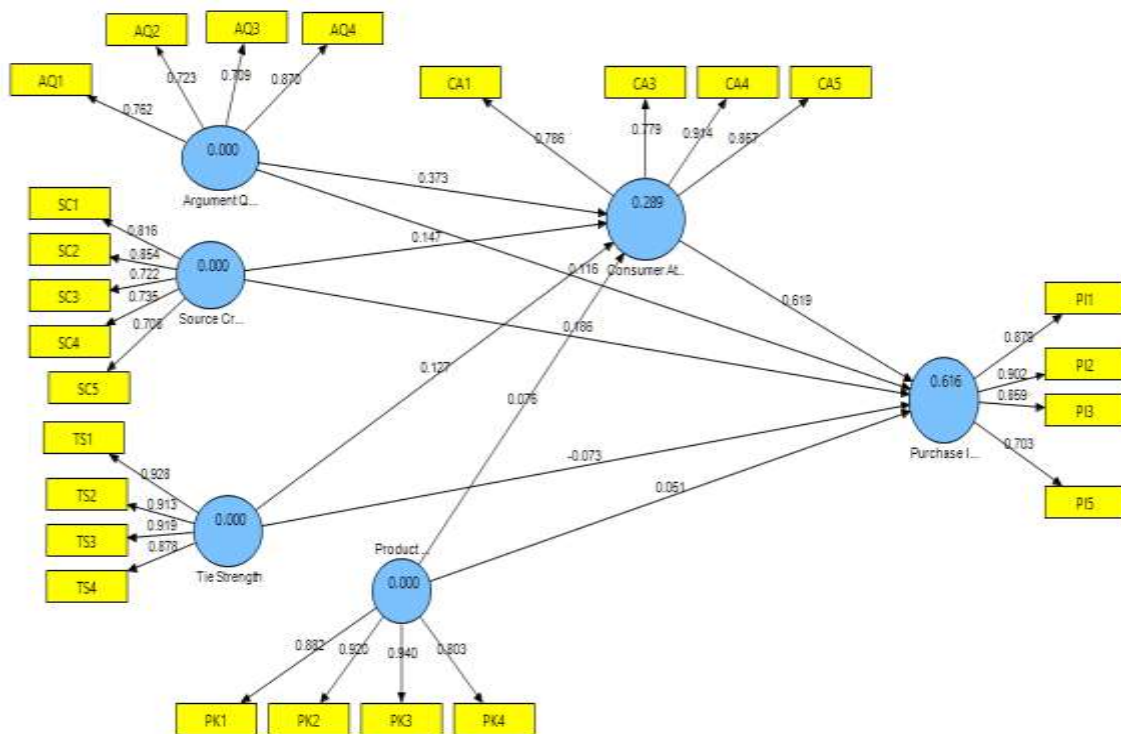


Table 4.2: Measurement model assessment

Construct	AVE	Cronbach alpha
Argument quality	0.591	0.770
Consumer attitude	0.703	0.858
Purchase intention	0.705	0.857
Product knowledge	0.788	0.911
Source of credibility	0.592	0.826
Tie strength	0.828	0.931

4.3 Structural model

A bootstrapping analysis was conducted to examine the statistical significance of the path between constructs in the model. A significant path for a one-tailed test is defined as a t-value of 1.645 (significance level of 5%) or 2.33 (significance level of 1%). Figure 4.3 and Table 4.3 show the outcomes of the bootstrapping analysis in this study.

Figure 4.3: PLS Model Graph (Bootstrapping)

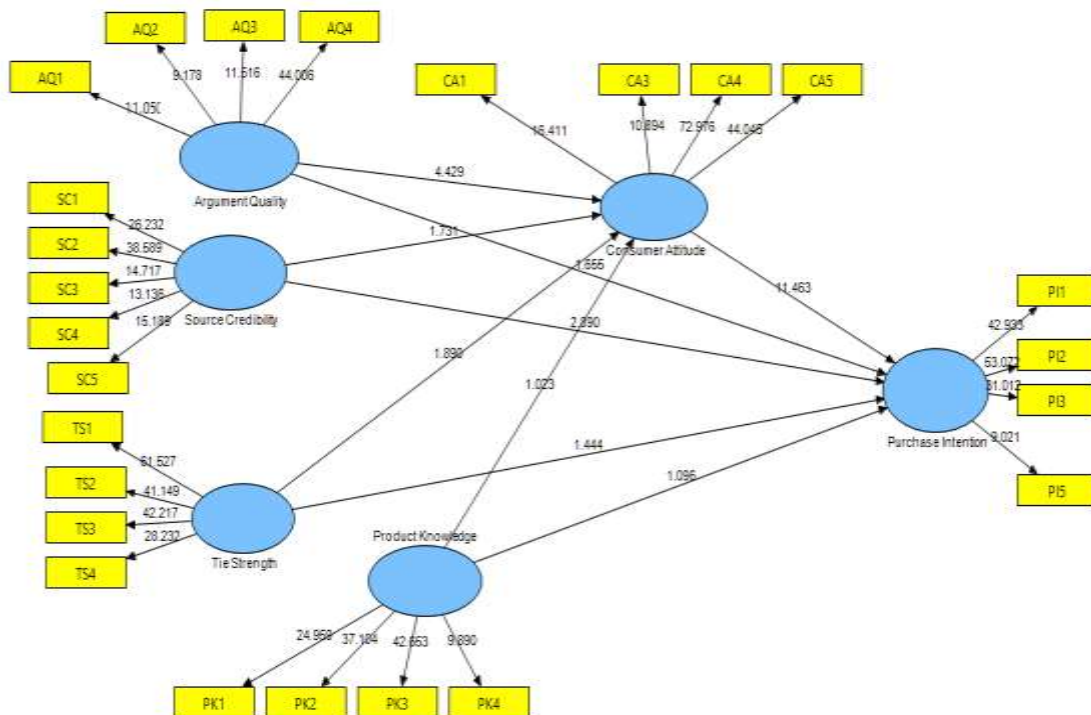


Table 4.3: Result of hypothesis testing (direct effect)

Hypothesis	Relationships	Std. Beta	Std. Error	t-value	Result
H1	Consumer attitude > purchase intention	0.619	0.054	11.463**	Supported
H2	Argument quality > purchase intention	0.116	0.070	1.655*	Supported
H3	Argument quality > consumer attitude	0.373	0.084	4.429**	Supported
H4	Source credibility > purchase intention	0.186	0.064	2.890**	Supported
H5	Source credibility > consumer attitude	0.147	0.085	1.731*	Supported
H6	Tie strength > purchase intention	-0.073	0.050	1.505	Not supported

H7	Tie strength > consumer attitude	0.127	0.067	1.890*	<i>Supported</i>
H8	Product knowledge > purchase intention	0.051	0.047	1.444	<i>Not supported</i>
H9	Product knowledge > consumer attitude	0.076	0.074	1.023	<i>Not supported</i>

** $p < 0.01$ (2.33); * $p < 0.05$ (1.645) or t-value > 1.65 *($p < 0.05$); t-value 2.33 **($p < 0.01$)

4.3.1 Relationship between consumer attitude and online purchase intention

Hypothesis one (H1) examined the relationship between consumer attitudes and intentions to purchase online. It was anticipated that consumer attitudes would have a positive effect on the consumer's intention to purchase online. The outcome in Table 4.3 showed that the relationship between consumer attitude and intention to purchase online is positive ($\beta = 0.619$, $t = 11.463$, $p < 0.01$). The H1 was therefore supported as expected.

4.3.2 Relationship between C2C communication factors and online purchase intention

H2, H4, H6 and H8 examined the relationship between factors of C2C communication (e.g., argument quality, source of credibility, tie strength and product knowledge) and the intention to purchase online. The C2C communication factor was anticipated to have a positive effect on the online purchase intention of consumers. According to the findings in Table 4.3, two C2C communication factors, argument quality ($\beta = 0.116$, $t = 1.655$, $p < 0.05$) and source of credibility ($\beta = 0.186$, $t = 2.890$, $p < 0.01$), have a positive effect on the intention to purchase online. However, other C2C communication factors, namely tie strength and product knowledge, were not perceived as having an important relationship with online purchase intention. This implies supporting both H2 and H4 while, meanwhile, rejecting H6 and H8.

4.3.3 Relationship between C2C communication factors and consumer attitude

H3, H5, H7, and H9 assessed the relationship between the factors of C2C communication (e.g., argument quality, source of credibility, tie strength, and product knowledge) and consumer attitude. Overall, three (3) factors were discovered to have a positive relationship with consumer attitude: argument quality ($\beta = 0.373$, $t = 4.429$, $p < 0.01$), source of credibility ($\beta = 0.147$, $t = 1.731$, $p < 0.05$), and tie strength ($\beta = 0.127$, $t = 1.890$, $p < 0.05$). However, product knowledge was found to have no relationship with consumer attitudes ($\beta = 0.076$, $t = 1.023$, $p < 0.05$). Therefore, H3, H5, and H7 are supported, while H9 is rejected.

4.4 Mediating effect of consumer attitude

Hypothesis 10 (H10) to Hypothesis 13 (H13) investigated the mediating effect of consumer attitude on the relationship between C2C communication factors and online purchase intention. Table 4.4 shows the outcome. Interestingly, all the hypotheses in this study that assess the mediating effect of consumer attitude are found to be significant as there is no zero straddle between UL and LL values. The following is the value for the mediating effect of consumer attitude on the relationship between C2C communication factors and online purchase intention: Argument quality (UL = 0.28410, LL = 0.17768); source of credibility (UL = 0.12471, LL = 0.05728); tie strength (UL = 0.09582, LL = 0.06141); and product knowledge (UL = 0.06124, LL = 0.03285).

Table 4.4: Mediation analysis (LL and UL)

Hypothesis	Relationship	Indirect Effect - +1.96*Standard Error (SE)	Confidence interval (LL & UL)	Result
H10	AQ>CA>PI	LL= (0.373x 0.619) – (1.96x0.027148) UL= (0.373x 0.619) + (1.96x0.027148)	0.17768 0.28410	Partial Mediation (Supported)
H11	SC>CA>PI	LL= (0.147x0.619) – (1.96x0.0172) UL= (0.147x0.619) + (1.96x0.0172)	0.05728 0.12471	Partial Mediation (Supported)
H12	TS>CA>PI	LL= (0.127x0.619) – (1.96x0.008777) UL= (0.127x0.619) + (1.96x0.008777)	0.06141 0.09582	Full Mediation (Supported)
H13	PK>CA>PI	LL= (0.076x0.619) – (1.96x0.007241) UL= (0.076x0.619) + (1.96x0.007241)	0.03285 0.06124	Full Mediation (Supported)

5.0 Discussion on findings

This study examines the effects of C2C communication factors on online purchase intentions as well as investigates the mediating effect of consumer attitude on this relationship. The findings show that two (2) C2C communication factors, specifically argument quality and source of credibility, have a positive effect on the intention to purchase online. The findings revealed that aspects of information quality and credibility (i.e., argument quality and source of credibility) in C2C communication are critical in influencing consumer perceptions of online purchases.

The positive effect of argument quality was endorsed by past studies by Erkan & Evans (2016) and Lee (2009), which discovered that argument quality could have a significant effect on the intention to purchase online. Lee (2009) indicated that one of the main predictors of people's purchasing intentions is argument quality. The items categorised as argument quality measured in this study were consistent with earlier studies like Cheung & Thadani (2010). For example, the item that was used to measure argument quality in this study is "the information provided by the delivery is helpful, valuable, and persuasive". This finding implies that a consumer who provides information about a product or service with a high argument quality may affect other consumers' intention of pursuing an online purchase.

The source of credibility also has a positive effect on the online purchase intention, further in line with previous studies like Cheung & Thadani (2010), Mohd Suki (2014), Eisend (2006), Erkan & Evans (2016), and Baber et al. (2015). They said the source of credibility has an important positive effect on the intention to purchase. As studied by Zainal, Harun & Lily (2017) in the context of electronic word of mouth (eWOM), a good source of credibility will generate confidence among customers during C2C communication. The study discovered that customer

confidence in eWOM sources' sincerity, expertise, and kindness has an important effect on customer purchasing intentions. Based on the results of the current study, the credibility of information providers (i.e., their source of credibility) plays a significant positive role in affecting online purchase intentions.

The result of this study revealed that tie strength was found to have no important effect on online purchase intention. The reason is that most of the participants only communicated through online communication with their friends and other consumers. Most respondents in this study also preferred online communication compared to traditional communication methods. It is supported by the current study's descriptive statistics, where only 27% of participants communicated face-to-face compared to online communication. It thus indicates that in influencing the consumer's intention to purchase online, tie strength is not important. As mentioned by Anthenunis, Valkenburg & Peter (2012), tie strength in online communication is less important compared to offline communication. Therefore, it reveals that it is not compulsory to have strong ties during C2C communication. However, as long as the communicator during C2C communication can provide quality information and also has strong credibility, other consumers might be influenced to purchase online.

Surprisingly, product knowledge also showed no important effect on online purchase intentions and consumer attitudes. Based on the respondent statistics, most of the respondents in this study were female (71%). Indeed, female tends to obtain product information solely by C2C communication rather than self-reading on product description or information (McClelland (1975). As a result, female respondents had less product knowledge in this study. Thus, the relationship between product knowledge and online purchase intention is not significant. It revealed that consumer prior product knowledge is not necessarily required to influence other consumer purchase intentions and attitudes, as long as a communicator providing information during C2C communication is credible and can provide quality information on product function, benefits, and so on.

Furthermore, it has also been discovered that three (3) factors of C2C communication have a positive effect on consumer attitudes, namely argument quality, source of credibility, and tie strength. This reveals the important role of C2C communication as a foundation for developing a favourable consumer attitude towards the intention of online purchase. Overall, the result shows that the intention to purchase online can be directly affected strongly by consumer attitude with the largest t-value ($t= 11.463, p < 0.01$). It was in line with the Theory of Planned Behavior, which states that attitude toward a behaviour has a strong effect on consumer intention to do the behaviour (Ajzen, 1991). In the context of the current study on online purchases, it implies that consumer attitudes toward online purchases have a significant direct effect on consumer intent to purchase online.

Moreover, the result shows that the relationship between C2C communication factors (e.g., argument quality, source of credibility, tie strength, and product knowledge) and online purchase intention has been mediated by consumer attitudes. This was in line with previous study findings (Reimer & Hall, 2003; Zhang et al., 2013; Juharsah & Hartini, 2014; Koo, 2015). Sidhu, Bhalla, and Zafar (2021) stated that full mediation occurs when the mediator leads to a zero direct effect between independent variables and dependent variables. Surprisingly, tie strength and product knowledge are found to be fully mediated by consumer attitude when it was previously discussed that tie strength and product knowledge have no significant direct effect on online purchase intention. This implies that consumer attitude is important in order to make tie strength and product knowledge effective in C2C communication. In other words, without a positive attitude towards online purchasing, C2C factors, namely product knowledge and tie strength, will be ineffective. Other C2C factors, which are argument quality and source of credibility, are partially mediated by consumer attitude since these C2C factors have a direct effect on online purchase intention. Overall, the current study finding on the mediating effect of attitude shows that

consumer attitude plays a significant role in influencing the relationship between C2C communication factors and online purchase intention.

6.0 Conclusion

The purpose of this study is to investigate how consumer attitude, which acts as a mediating factor, affects the relationship between C2C communication and online purchase intention. The C2C communication factors that were used as independent variables are argument quality, source of credibility, tie strength, and product knowledge. While consumer attitude was a mediator and online purchase intention was a dependent variable. The C2C communication factors, namely argument quality and source of credibility, were found as factors that may increase the consumer's intention to purchase online. These two factors may help to improve the effectiveness of C2C communication on online purchase intention in online communities. This study also found that all the C2C factors employed, which are argument quality, source of credibility, tie strength, and product knowledge, were mediated by consumer attitudes. It revealed the importance of consumer attitude in online communication.

Therefore, based on the results of this study, all practitioners (e.g., marketers) are urged to consider the C2C communication factors that may influence online purchasing intentions among internet users. Companies could provide high argument quality on the grounds that consumers need to purchase their product/service through online platforms. Good argument quality will therefore be disseminated through C2C communication, and the consumer's purchase intention will be enhanced. As for the source of the credibility factor, companies may increase their credibility in various ways, such as through corporate social responsibility (CSR) and celebrity endorsement, as well as by spreading these in online communities. In a nutshell, improving C2C communication on the basis of these factors could help to increase online purchase intentions among internet users, particularly in Malaysia. It is recommended that future studies can explore new C2C communication factors that may have an effect on online purchase intention. Future studies may also consider conducting the present study in the context of econometrics, such as sales performance, by examining the influence of C2C factors on the sales performance of a firm.

7.0 Acknowledgement

We would like to thank Universiti Tun Hussein Onn Malaysia (UTHM) for their support for this study work. This study is supported by UTHM study fund vote E15501 and vote H548.

References

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes* 50:179–211.
- Anthenunis, M. L., Valkenburg, P. M., & Peter, J. (2012). The Quality of Online, Offline, and Mixed-Mode Friendships among Users of a Social Networking Site. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 6 (3), article 6
- Aqila, N., Osman, A., Abdullah, S., & Nizam, S. (2016). The Relationship of Attitude, Subjective Norm and Website Usability on Consumer Intention to Purchase Online : An Evidence of Malaysian Youth *. *Procedia Economics and Finance*, 35 (October 2015), 493–502.
- Baber, A., Thurasamy, R., Malik, M. I., Sadiq, B., Islam, S., & Sajjad, M. (2016). Online word-of-mouth antecedents, attitude and intention-to-purchase electronic products in Pakistan. *Telematics and Informatics*, 33 (2), 388–400.
- Brucks, M. (1985). The Effects of Product Class Knowledge on Information Search Behavior. *Journal of Consumer Research*, 12 (1), 1.

- Burton, S., Howlett, E., Tangari, A.H. (2009). Food for Thought: How will the Nutrition Labelling as Quick Service Restaurant Menu Items Influence Consumer's Product Evaluation, Purchase Intention, And Choices? *J. Retail.* 85 (3):258-273.
- Cheung, C. M. K., and Thadani D. R. (2010). The Effectiveness of Electronic Word-of-Mouth Communication: A Literature Analysis *Electronic Word-of-Mouth Communication*, (February 2009), 329–345.
- Chiu, Y. B., Lin, C. P., and Tang, L. L. (2005). Gender Differs: Assessing A Model of Online Purchase Intentions in E-Tail Service. *International Journal Service Industry Management*, 16 (5):416-435
- Chu, C. W., & Lu, H. P. (2007). Factors Influencing Online Music Purchase Intention in Taiwan. *Internet Research*, 17 (2):139 – 155.
- Coakes, S. J., & Steed, L. (2009). SPSS: Analysis without Anguish Using SPSS Version 14.0 for Windows. John Wiley & Son, Inc.
- Das, G. (2014). Factors affecting Indian shoppers [U+05F3] attitude and purchase intention: An empirical check. *Journal of Retailing and Consumer Services*, 21 (4), 561–569.
- Deepa, N., & Deshmukh, S. (2013). Social media management: The next generation of business engagement. *International Journal of Management Research and Review*, 3(2), 2461–2468.
- Dhanapal, S., Vashu, D., & Subramaniam, T. (2015). Perceptions on the challenges of online purchasing: a study from “baby boomers”, generation “X” and generation “Y” point of views. *Contaduría Y Administración*, 60, 107–132.
- Eagly, A. H. and Chaiken, S. (2007). “The Advantages of an Inclusive Definition of Attitude”, *Social Cognition*, Vol. 25 No.5, pp. 582-602.
- Eagly, A.H., and Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.
- Eisend, M. (2006). Source Credibility Dimensions in Marketing Communication - A Generalized Solution. *Journal of Empirical Generalisations in Marketing Science*, 10:1–33.
- Erkan, I., & Evans, C. (2016). Computers in Human Behavior The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption. *Computers in Human Behavior*, 61, 47–55.
- Fornell, C. And Cha, J. (1994). Partial Least Squares. In Bagozzi, R.P. (Ed). *Advanced Methods of Marketing Research*, 52-78. Cambridge, MA: Blackwell.
- George, J. F. (2004). The Theory of Planned Behavior and Internet Purchasing. *Internet Research*, 14(3):198–212.
- Granovetter, M. (1973). The Strength of Weak Ties. *The Strength of Weak Ties*. <http://doi.org/10.1086/225469>
- Ha, H. Y., & Janda, S. (2014). The Effect of Customized Information on Online Purchase Intentions. *Internet Research*, 24(4):496–519.
- Hair, J.F., Black, W. C., Babin, B.J and Anderson, R. E. (2009). *Multivariate Data Analysis*, 7th Ed. Pearson Prentice Hall: NY upper Saddle River.
- Howes, P. A., & Sallot, L. M. (2013). Company Spokesperson Vs. Customer Testimonial: Investigating Quoted Spokesperson Credibility and Impact in Business-To-Business Communication. *Public Relations Review*, 39 (3):207–212.
- Hung, Y., de Kok, T. M., & Verbeke, W. (2016). Consumer attitude and purchase intention towards processed meat products with natural compounds and a reduced level of nitrite. *Meat Science*.
- Irianto, H. (2015). Consumers Attitude and Intention towards Organic Food Purchase: An Extension of Theory of Planned Behavior in Gender Perspective, 4 (1):17–31.
- Jin, L. Y., Osman, A., Romle, A. R., & Othman, Y. H. (2015). Attitude towards Online Shopping Activities in Malaysia Public University. *Mediterranean Journal of Social Sciences*, 6(2), 456–462.
- Juharsah, & Hartini. (2014). The Role of Attitude as Relationship Mediation between Products Knowledge and Ethnocentrism on Purchasing Intention of Buton Special Woven (Study on

- the City Of Bau-Bau). *International Journal of Business and Management Invention*, 3 (11):26–34.
- Jun, G., & Jaafar, N. I. (2011). A Study on Consumers' Attitude towards Online Shopping in China University of Malaya. *International Journal of Business and Social Science*, 2(22), 122–133.
- Karimi, S., Papamichail, K. N., & Holland, C. P. (2015). The effect of prior knowledge and decision-making style on the online purchase decision-making process : A typology of consumer shopping behaviour. *Decision Support Systems*, 77, 137–147.
- Kim, W. G., Li, J. J., & Brymer, R. A. (2016). The impact of social media reviews on restaurant performance: The moderating role of excellence certificate. *International Journal of Hospitality Management*, 55, 41–51.
- Koo, D. M. (2015). The Strength of No Tie Relationship in an Online Recommendation. *European Journal of Marketing*, 49 (7/8):1163–1183.
- Koo, D. M. (2016). Impact of Tie Strength and Experience on the Effectiveness of Online Service Recommendations. *Electronic Commerce Research and Applications*, 15:38–51.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 38 (30):607–610.
- Lafferty, B. a., & Goldsmith, R. E. (1999). Corporate Credibility's Role in Consumers' Attitudes and Purchase Intentions When a High versus a Low Credibility Endorser Is Used in the Ad. *Journal of Business Research*, 44(2), 109–116.
- Lee, S. (2009). How do Online Reviews Affect Purchasing Intention? *African Journal of Business Management*, 3(10), 576–581.
- Liat, C. B., & Wuan, Y. S. (2014). Factors Influencing Consumers' Online Purchase Intention : A Study among University Students in Malaysia. *International Journal of Liberal Arts and Social Science*, 2(8), 121–133.
- Libai, B., Bolton, R., Bügel, M. S., Ruyter, K. De, Götz, O., Risselada, H., & Stephen, A. T. (2010). *Journal of Service Research*.
- Lin, L., & Chen, C. (2006). The influence of the country-of-origin image, product knowledge and product involvement on consumer purchase decisions : an empirical study of insurance and catering services in Taiwan.
- Marks, L.J. & Olson, J.C. (1981). Toward A Cognitive Structure Conceptualization of Product Familiarity. In Monroe, K.B. (Ed.). *Advances in Consumer Research*, 8:145-50. Association for Consumer Research, Ann Arbor, MI.
- Marketing Interactive. (2011). Retrieved from <http://marketing-interactive.com/news/25946>
- McClelland, D.C. (1975). *Power: The Inner Experience*. New York: Irving
- Mohd Suki, N. (2014). Does celebrity credibility influence Muslim and non-Muslim consumers' attitudes toward brands and purchase intention? *Journal of Islamic Marketing*, 5(2), 227–240.
- Park, H. S., Levine, T. R., Westerman, C. Y. K., Orfgen, T., & Foregger, S. (2007). The Effects of Argument Quality and Involvement Type on Attitude Formation and Attitude Change : A Test of Dual-Process and Social Judgment Predictions. *Human Communication Research*, 33:81–102.
- Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce : Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce*, 7(3), 69–103.
- Petty, R. E., John T. Cacioppo and Rachel G. (1981). Personal Involvement as a Determinant of Argument-Based Persuasion. *Journal of Personality and Social Psychology*, Vol. 41:850
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models. *Behavior Research Methods*, 40 (3):879–891.
- Reimer, T., & Hall, M. (2003). On the Interplay between Heuristic and Systematic Processes in Persuasion

- San, L. Y., Omar, A., & Thurasamy, R. (2015). Online Purchase : A Study of Generation Y in Malaysia, 10 (6):1–7.
- Sekaran, U and Bougie, R. (2013). Research Methods for Business: A Skill-Building Approach. 6th Ed. John Wiley & Sons Ltd.
- Stanko, M. A., Bonner, J. M., & Calantone, R. J. (2007). Building commitment in buyer-seller relationships: A tie strength perspective. *Industrial Marketing Management*, 36(8), 1094–1103.
- Taylor, S. and Todd, P. (1995b). Decomposition and Crossover Effects in the Theory of Planned Behavior: A study of Consumer Adoption Intention. *International journal of research in marketing* 12:137-155.
- Umeogu, B. (2012). Source Credibility: A Philosophical Analysis. *Open Journal of Philosophy*, 2(2):112–115.
- Wang, J. C., & Chang, C. H. (2013). How Online Social Ties and Product-Related Risks Influence Purchase Intentions: A Facebook experiment. *Electronic Commerce Research and Applications*, 12 (5):337–346.
- Wang, Y. & Hazen, B. T. (2016). Consumer Product Knowledge and Intention to Purchase Remanufactured Products. *International Journal of Production Economics*, 181: 460-469.
- Wu, S.I. (2003). The relationship between consumer characteristics and attitude toward online shopping. *Marketing Intelligence & Planning*, 21 (1), 37–44.
- Zainal, N. T. A., Harun, A., & Lily, J. (2017). Examining the mediating effect of attitude towards electronic words-of mouth (eWOM) on the relation between the trust in eWOM source and intention to follow eWOM among Malaysian travellers. *Asia Pacific Management Review*, 22(1), 35–44.
- Zhu, D. H., Chang, Y. P., & Luo, J. J. (2015). Understanding the Influence of C2C Communication on Purchase Decision in Online Communities from A Perspective of Information Adoption Model. *Telematics and Informatics*, 33 (1):8–16.
- Zhang, K. Z. K., Zhao, S. J., Lee, M. K. O., & Kong, H. (2013). Product Attitude Formation on Online Review.
- Zuroni, M. J., & Ling, G. H. (2012). Factors Influencing Consumers Attitude towards E-Commerce Purchases Through Online Shopping. *Journal, International Science, Social*, 2 (4):223–230.