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## **The influence of online retail/service brand equity and effect of country of origin on e-marketplace patronage intention**

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**Abstract:** E-marketplaces are estimated as the primary online shopping channel in Thailand; however, the local e-marketplaces cannot compete with foreign competitors. Besides, Thai online shoppers prefer to shop from cross-border websites. Brand equity can strengthen traditional retailers' patronage intention. However, the brand equity concept, which is particular for online retailers, may be more suitable for strengthening the e-marketplaces of the country. Also, studies on the effect of country of origin (COO) on online retailers in terms of foreignness are limited. Therefore, the study aims to investigate the e-marketplace patronage intention of Thai online shoppers by utilising the extended theory of reasoned action (TRA), with online retail/service (ORS) brand equity as an independent variable and the effect of COO as a moderator variable. The findings reveal that all of the independent variables are positively significant with e-marketplace patronage intention except the effect of COO. The relationship between attitude towards behaviour and the e-marketplace patronage intention is negatively moderated by the effect of COO.

**Keywords:** e-marketplace; electronic marketplace; patronage intention; theory of reasoned action; TRA; online retail/service; ORS; brand equity; country of origin; COO; attitude towards behaviour; subjective norm.

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## 1 Introduction

In Thailand, e-marketplaces are predicted to be the leading business channel in the future (Mearsa and Laksitamas, 2016). Nonetheless, the previous study reveals the weakness of Thai e-marketplace players; they cannot compete with Chinese e-marketplaces from dumping market strategies (Phinil, 2016).

The empirical evidence indicates that consumers do not decide where to shop, as they only focus on prices and promotion, but many other extrinsic factors impact their store patronage (Moutinho and Hutcheson, 2007). Therefore, the study of store patronage intention has been significant for developing retailing strategies (Rex, 2017).

To examine customer behaviour intention, the TRA can predict an individual's intention by two factors, namely an attitude towards the behaviour and the subjective norm (Fishbein and Ajzen, 1975). However, if the product attributes tend to be similar, the attitudes and subjective norms towards each of the alternatives are also similar; it may impact the accuracy; hence, the TRA should be extended for the prediction of choice (Sheppard et al., 1988). Besides, TRA is generated from attitude research; modification of additional factors can improve TRA to be more practical (Otieno et al., 2018).

To extend the variables of TRA, one of the failures to pioneer e-marketplace in developing countries is caused by the lack of a suitable e-business model in providing value to both buyers and sellers (Effah, 2014). On the other hand, brand equity can build value for both companies and customers (Dharmawan and Hendrayati, 2019); it is commonly regarded as the value-added construct based on consumer associations (Frank and Watchravesringkan, 2016), and retailers can utilise it to define value components and develop retail brand positioning (Jara and Cliquet, 2012).

According to the lack of unity definition and assessment of brand equity, the traditional brand equity models developed by Aaker (1991) (1996) and Keller (1993) have been broadly employed in many fields (Roldan, 2013). Also, they have been widely employed for online business (Rios and Riquelme, 2008).

However, empirical evidence concluded that the brand equity for ordinary commodity products might not be efficient for the online brand (Christodoulides et al., 2006; Liyin, 2009; Na and Marshall, 2005; Page and Lepkowska-White, 2002; Simmons et al., 2010). In 2006, Christodoulides et al. developed an alternative retail brand equity model named

ORS brand equity. Moreover, the ORS brand equity is based on consumer interaction, which is essential for new media (Andersen and Andersen, 2011). The ORS brand equity may relate to the e-marketplace rather than traditional brand equity.

Also, Thai customers are among those with a high purchase ranking through cross-border websites in the Asia-Pacific region (PayPal, 2017). However, previous studies have limited the 'foreignness' of retailers in consumer receptiveness (Maruyama and Wu, 2014). That is, therefore, essential for marketers to understand how consumers in the emerging market react to the store choice, mainly retail store brands between local versus global operators (Diallo et al., 2015). COO acts as a quasi-moderator; it can be either an independent variable or a moderator variable (Nasution and Rossanty, 2018). It was found that COO was relatively featured as moderator variables in purchase intention studies (Peterson and Jolibert, 1995). According to a PLS path model, when a moderator variable is included in the model, there is also an interaction effect in the path relationship and a direct effect that cannot be ignored from the moderator to the endogenous construct (Hair et al., 2017).

Thus, the current study investigates the e-marketplace's patronage intention by employing the extended TRA with ORS brand equity as the independent variable and the effect of COO as the moderator variable. Furthermore, the current study aims to answer the research questions for the study as follows;

- 1 Do the attitude towards behaviour, the subjective norm, the ORS brand equity and the effect of COO impact e-marketplace patronage intention?
- 2 Does the effect of COO moderate the relationship between attitudes towards behaviour and e-marketplace patronage intention?

## **2 Literature review**

### *2.1 E-marketplace*

The e-marketplace refers to an online medium involving trilateral managing of buyers, sellers, and e-marketplace providers by establishing relationships between buyers and sellers, including facilitating the purchasing transactions (Cruz-Cunha et al., 2013; Li et al., 2016; Oh and Kim, 2015; Pucihar and Podlogar, 2005; Rask and Kragh, 2007; Sfenrianto et al., 2018; Standing, 2013).

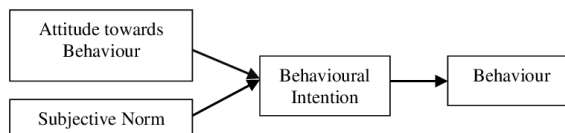
### *2.2 Theory of reasoned action*

Martin Fishbein and Ajzen proposed the TRA in 1967. This theory describes that people are usually sensible and use the information systematically; people would decide carefully to perform or not perform and show their decision through certain behaviours (Fishbein and Ajzen, 1975).

TRA is applied to predict and understand various behavioural intentions such as assessing brand attitude, buying intention, actual customer behaviour (Ajzen and Fishbein, 1980). Besides, the previous study in Malaysia also confirmed that TRA is a valid model for predicting online shopping intention (Ramayah and Aafaqi, 2005). TRA consists of attitude towards behaviour and subjective norm that impact the intention to perform or not perform the behaviour (Ajzen and Fishbein, 1980). The TRA examines

behavioural intention in the event of a decision is made by volitional control, in which the individual has the volition to do or not to do a certain behaviour (Fishbein and Ajzen, 1975). However, in the case of a decision that is not under volitional control, Ajzen and Fishbein (1980) extended TRA as the theory of planned behaviour (TPB) by including perceived behavioural control, which is the individual belief to manipulate behavioural performance (Ellen and Ajzen, 1992). However, for examining e-marketplace patronage intention in Thailand, the TRA is appropriate to be utilised because the Thai online shoppers have free will to access the e-marketplace without the limitation of time, location, and travelling budgeting. Importantly, the previous study by Luo (2020) has stated that perceived behavioural control, which is an extended variable from TRA in the TPB, did not affect the willingness of Thai online shoppers to buy from e-commerce platforms.

**Figure 1** Theory of reasoned action



*Source:* Fishbein and Ajzen (1975)

### 2.2.1 Patronage intention

Kaul et al. (2010) indicate that patronage intention is the signal that shows customers will visit, remain or defect from a store. Also, Kusumawati et al. (2020) illustrate patronage intention as the willingness to buy, visit, purchase more, recommend, choose the first choice, and the level frequency of shopping.

Baker et al. (2002) and Grewal et al. (2003) define store patronage intention as consumer intention to patron the particular store by the willingness to recommend, willingness to buy, and shopping likelihood. Baker et al. (2002) provided the first empirical study of a detailed model of store patronage, and it was employed in previous studies of the online patronage intention (Ahmed and Forsythe, 2015). For this reason, the definition of the patronage intention by Baker et al. (2002) is adopted in the current study.

### 2.2.2 Attitude towards behaviour

Attitude towards behaviour means individual evaluation in which a behaviour is good or not good to perform (Ajzen and Fishbein, 1980). Moreover, a person who has a favourable high level of attitude towards behaviour will have more intention to perform the behaviour; on the contrary, the person who has an unfavourable high level of attitude towards behaviour will have more intention against performing the behaviour (Ajzen and Fishbein, 1980).

### *2.2.3 Relationship between attitude towards behaviour and store patronage intention*

Hwa and Perumal (2018) indicated that the attitude towards behaviour influenced the shopping mall patronage intention among Malaysian women. Besides, Song (2013) found that consumer attitudes towards unfamiliar Asian brands positively impacted cosmetic homepages patronage intentions. Similarly, Kan et al. (2013) revealed that brand attitude affects hypermarket patronage among the Chinese and the Spanish. Therefore, the following hypothesis is formulated:

H1 There is a significant positive impact of the attitude towards behaviour on the e-marketplace patronage intention.

### *2.2.4 Subjective norm*

Subjective norm refers to an individual believes that a particular person or group determines him as should perform or not perform that behaviour, in which the individual motivation can comply with the referents (Ajzen and Fishbein, 1980). Moreover, an individual will more intend to perform certain behaviours if he realises who is essential to him and determines he should perform the behaviour (Ajzen and Fishbein, 1980).

### *2.2.5 Relationship between subjective norm and store patronage intention*

Diddi and Niehm (2017) found that the subjective norm was positively influenced by the intentions to patronise apparel brands retailers that joined in corporate social responsibility activities (CSR) among US consumers. Also, Kan et al. (2013) confirmed that subjective norm had a significant impact on the hypermarket patronage intention of both Chinese and Spanish consumers. Patney (2010) concluded that shopping mall patronage intention consisted of revisiting and willingness to buy, which were impacted by the subjective norm. Based on the empirical evidence, the following hypothesis is developed:

H2 There is a significant positive impact of the subjective norm on the e-marketplace patronage intention.

### *2.2.6 ORS brand equity*

The ORS brand equity refers to ‘a relational type of intangible asset that is co-created through the interaction between consumers and the e-tail brand’ [Christodoulides et al., (2006), p.803], and it composes of five antecedents in the following:

#### a Emotional connection

Emotional connection refers to the relevance between a brand and consumers, and it can be determined by affiliation, care, and empathy (Christodoulides et al., 2006).

#### b Online experience

Online experience refers to the consumer experience of the brand in real-time, and it can be determined by ease of use, navigation, and speed (Christodoulides et al., 2006).

c Responsive service nature

Responsive service nature signifies feedback and service, which systematically support the ORS storefront and the level of customer service interchange as facilitated by the website, and it can be determined by responsiveness and interactive interface (Christodoulides et al., 2006).

d Trust

Trust refers to consumer confidence concerning the brand's reliability and situational intentions related to consumer risk, and it can be determined by privacy and security (Christodoulides et al., 2006).

e Fulfilment

Fulfilment refers to order fulfilment relating to the product delivered, which corresponds to the product ordered, or delivery that is entirely in line with the initial agreement of delivery, and it can be determined by the accuracy and prompt delivery (Christodoulides et al., 2006).

### *2.2.7 Relationship between ORS brand equity and store patronage intention*

There is a limited study related to ORS brand equity and store patronage intention. Jarrell (2012) studied the impact of ORS brand equity in higher online education in the USA. The output indicated that ORS brand equity had a significant impact on intention to complete the degree program, intention to recommend to others, and intention to re-enrol in other programs.

However, previous studies have indicated that store patronage intention is influenced by traditional brand equity (Allaway et al., 2011; Pham et al., 2016). Therefore, this prompts the hypothesis as follows:

H3 There is a significant positive impact of the ORS brand equity on the e-marketplace patronage intention.

### *2.2.8 Effect of COO*

Witek-Hajduk and Grudecka (2019) interpret the effect of COO as perception and measurement of the country that influences product, brand, and company. In the same token as Kabadayi and Lerman (2011) and Boran (2013), the effect of COO is defined as manufacturing places that influence consumer decisions and related evaluation.

Maruyama and Wu (2014) study the effect of COO in the perspectives of retailer nationality (foreign and domestic) and illustrate the effects of COO as an extrinsic cue of domestic country bias from:

- 1 store nationality of the retailer
- 2 perceived importance of supporting domestic store origin
- 3 perceived importance of store origin.

The current study focuses on the effect of COO on the retailer; hence, the definition by Maruyama and Wu (2014) is adopted.

2.2.9 Relationship between the effect of COO and store patronage intention

Anić (2010) indicated that the differences in customer attitude segments significantly impacted store patronage among the Croatian consumers. Kan et al. (2013) indicated that the country image had directly impacted the hypermarket patronage intention of Spanish consumers, while the country image indirectly impacted Chinese customers. Based on the evidence, the following hypothesis can be considered:

H4 There is a significant positive impact of the effect of COO on the e-marketplace patronage intention.

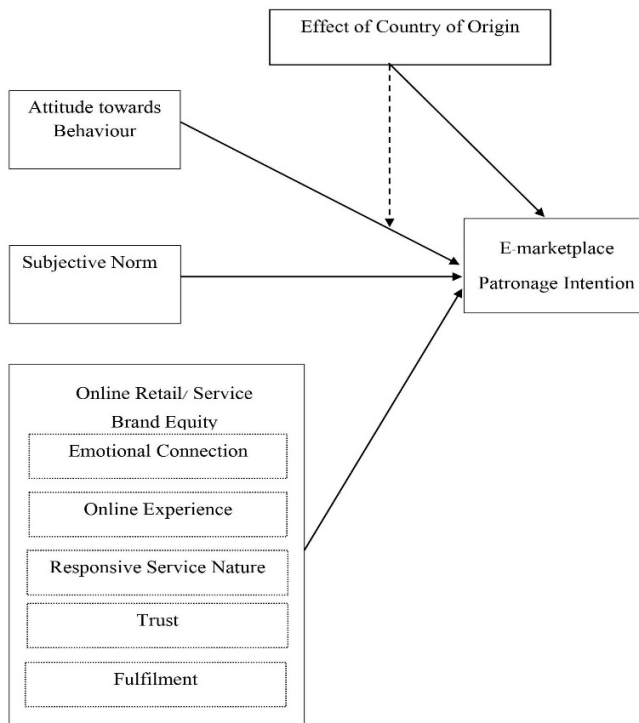
2.2.10 Moderating effect of COO on the relationship between attitude towards behaviour and store patronage intention

Ramkumar and Ellie Jin (2019) examined the moderating role of e-tailer country image on the relationship between international online out shopping (IOO) intention and transaction utility; the finding illustrated that the e-tailer country image played its moderating role in the relationship between the IOO intention and transaction utility.

Also, Wei et al. (2021) found that the effect of COO played a moderating role in the relationship between the preventive practice and the brand trust for the restaurants in the USA. Based on the evidence, the following hypothesis can be considered:

H5 The relationship between attitude towards behaviour and e-marketplace patronage intention is positively moderated by the effect of the COO.

Figure 2 Theoretical framework





### 3 Methodology

The quantitative method by questionnaire survey is employed for the current study. The Thai version of questionnaires, including the screening questions and using the self-administered questionnaire method, were collected by the enumerators from July to August 2020.

#### 3.1 *Population and sample*

The number of online shoppers from southern Thailand (30.7%) came second after the Bangkok metropolitan (32.8%) (Newsmonitor, 2019). Thus, online shoppers of southern Thailand are selected to be the population of the current study because they are a potential target for online shopping.

For reaching an appropriate sample size of the current study, which the population is 4,772,365 people (National Statistical Office, 2016), the priori power analysis is found out by G\*Power 3.1; the result indicates that the minimum sample sizes of the current study are 160 samples (see Figure A1). However, according to Krejcie and Morgan (1970), 384 is the total and appropriate sample size of the current study. If the results of appropriated sample sizes are more than only one choice, the most extensive sample size choice should be selected (Cunningham, 2007); therefore, the sample size of the current study is 384. To prevent the non-response rate problem of online shopping studies in Thailand, the number of the questionnaires should be plus 4% to 20% of sample sizes (Chaitaweewutikul, 2012; Chanhavorn, 2016; Hongyont, 2019; Jaikhun, 2018; Kiadrasamee, 2015; Kongkaem, 2016; Rangsisena et al., 2019; Suppasilp and Suppasilp, 2020; Theinsoontorn, 2017). For this study, 460 questionnaires were distributed to the targeted respondents.

#### 3.2 *Sampling technique*

The combination of probability sampling and non-probability sampling calls mixed sampling design, and it is suitable for the study that cannot employ only random selection to select the study respondents (Etikan, 2017). Therefore, the current study employs a mixed sampling design beginning with the multistage sampling technique (a probability sampling type) as it suits the essential feature of populations and covers geographical regions (Alvi, 2016). Later, the purposive sampling technique (a non-probability sampling type) is employed as it can diagnose and select specifically individuals with an interesting incident (Palinkas et al., 2015).

#### 3.3 *Study measurements*

The structured questionnaires were designed to test the hypotheses that employed a five-point Likert-type scale by 1 representing 'strongly disagree' and 5 representing 'strongly agree'. The details are presented in Table 1.

#### 3.4 *Moderating effect: creating the interaction term*

The interaction term is created by the orthogonalising approach for the current study's moderator variable as this approach is employed for the reflective construct and suits to

minimise the estimation bias and maximise the endogenous construct’s prediction (Hair et al., 2017).

**Table 1** Research questionnaire

<i>Items</i>		<i>Applied from</i>
1	E-marketplace patronage intention (EP)	Baker et al. (2002) and Grewal et al. (2003)
	EP1 The likelihood that I would purchase from this e-marketplace is very high.	
	EP2 I will more often purchase from this e-marketplace over the next 3 months.	
	EP3 I would be willing to purchase any products from this e-marketplace.	
	EP4 I would be willing to recommend this e-marketplace to my friends.	
	EP5 My social media group influences me to purchase from this e-marketplace.	
2	Attitude towards behaviour (AT)	Ajzen and Fishbein (1980) and Albarq and Alsughayir (2013)
	AT1 Purchasing from this e-marketplace is wise in doing.	
	AT2 Purchasing from this e-marketplace has good consequences.	
	AT3 It is a good idea to visit this e-marketplace for next purchasing.	
	AT4 I like to purchase from this e-marketplace.	
3	Emotional connection (EC)	Christodoulides et al. (2006)
	EC1 I am the type of person who is the customer of this brand of e-marketplace.	
	EC2 This image of e-marketplace relevant to how I would like to see myself.	
	EC3 This brand of e-marketplace actually shows its caring to me.	
	EC4 This brand of e-marketplace treats me like an important customer.	
	EC5 This brand of e-marketplace really understands me.	
4	Online experience (OE)	Christodoulides et al. (2006)
	OE1 The website search path of this brand of e-marketplace provides easier to follow.	
	OE2 This brand of E-marketplace has a good portion between graphics and text on the website.	
	OE3 I never feel lost from it the website navigation of this brand of e-marketplace.	
	OE4 This guideline in a purchasing process of this brand of e-marketplace suits my needs.	
	OE5 I can get the information I wanted without any delay from this brand of e-marketplace.	
5	Responsive service nature (RN)	Christodoulides et al. (2006)
	RN1 This brand of e-marketplace is ready to take the response to customer needs.	

**Table 1** Research questionnaire (continued)

<i>Items</i>	<i>Applied from</i>
5 Responsive service nature (RN)	Christodoulides et al. (2006)
RN2 The advertisements and promotions that this brand of E-marketplace sends me are tailored to my needs.	
RN3 This brand of e-marketplace is effective in gathering visitors' feedback.	
RN4 This brand OF E-marketplace gives visitors the opportunity to 'talk back'	
RN5 This brand of e-marketplace facilitates two-ways communications between the visitors and the site.	
6 Trust (TR)	Christodoulides et al.(2006)
TR1 Online payment done by this brand of e-marketplace is safe.	
TR2 My personal information will not be misused by this brand of e-marketplace.	
TR3 This brand of e-marketplace is reliable.	
TR4 I trust this brand of e-marketplace to keep my personal information confidential.	
TR5 This brand of e-marketplace does not give out personal information of the consumers to third parties.	
7 Fulfilment (FU)	Christodoulides et al.(2006)
FU1 I received what I ordered from this brand of e-marketplace.	
FU2 The product or service that came was described accurately by this brand of e-marketplace.	
FU3 This brand of e-marketplace offers delivery options that I prefer.	
FU4 The products and services are delivered on time by this brand of e-marketplace as promising.	
8 Effect of country of origin (COO)	Maruyama and Wu (2014)
CO1 I know the e-marketplace is originated from a local or international company.	
CO2 The origin of e-marketplace would be important for me when I choose the brand of e-marketplace in the next purchase.	
CO3 Supporting local e-marketplace would be important for me when I choose the brand of e-marketplace in the next purchase	
9 Subjective Norm (SN)	Teng et al. (2018)
SN1 People who influence me think that I should be the customer of this e-marketplace.	
SN2 People who influence me think that I should prefer this e-marketplace.	
SN3 People who influence me think I should purchase from this e-marketplace in next purchasing.	
SN4 My social media group influences me to purchase from this e-marketplace.	

### 3.5 Higher-order constructs

A higher-order construct refers to a multidimensional construct consisting of a higher level of abstraction relevant to other constructs by influencing a mediating influence to or from their elemental dimensions (Becker et al., 2012). The previous studies indicate that the ORS framework performs as the reflective-reflective construct (Christodoulides et al., 2006; Rezaei and Valaei, 2017). To specify the higher-order construct, the disjoint two-stage approach is employed for the current study to benefit the preventing multicollinearity issues and the double-counting case (Riel et al., 2017).

## 4 Results

For the data analysis, the Smart PLS version 3 is used to analyse the measurement and structural models. The qualified questionnaires after the data screening are 399 copies. The primary descriptive statistic presents in Table 2 illustrates gender, age, monthly income, occupations, frequency of online shopping, and brands of e-marketplaces patronage intention.

**Table 2** Descriptive statistics

<i>Demographic categories</i>		<i>Frequency</i>	<i>Percentage</i>
Total number of respondents	399	100.0	
Gender	Male	165	41.4
	Female	234	58.6
Age	18–22 years old	99	24.6
	23–27 years old	100	25.0
	28–32 years old	61	15.3
	33–37 years old	56	14.0
	38–42 years old	35	8.8
	Over 43 years old	49	12.3
Educational level	PhD	3	0.8
	Master	22	5.5
	Degree	210	52.6
	Secondary	126	31.6
	Others	38	9.5
Monthly income	Lower than 15,000 Baht	205	51.4
	15,001–30,000 Baht	123	30.8
	30,001–45,000 Baht	41	10.3
	45,001–60,000 Baht	19	4.8
	More than 60,001 Baht	11	2.8

**Table 2** Descriptive statistics (continued)

<i>Demographic categories</i>		<i>Frequency</i>	<i>Percentage</i>
Occupations	Student	65	16.3
	Unemployed	29	7.3
	Retired	8	2.0
	Self-employed/freelance	119	29.8
	Non-executive	141	35.3
Frequency of online shopping	Executive/professional	37	9.3
	About once a day	19	4.8
	Once a week	52	13.0
	A few times a week	59	14.8
	Once a month	157	39.3
Brands of e-marketplaces patronage intention	A few times a month	112	28.1
	Lazada	155	38.8
	Shopee	201	50.4
	Chinlindo	4	1.0
	JDcentral	7	1.8
	Tarad	25	6.3
	Wemall	1	0.3
	411eStore	0	0.0
	We Love Shopping	0	0.0
	True Shopping	6	1.5
Other	0	0.0	

#### *4.1 Results of assessment measurement model including the first-order construct*

Hair et al. (2017) address the four steps for assessing the reflective measurement models, namely indicator reliability, internal consistency, convergent validity, and discriminant validity, respectively.

##### *4.1.1 Indicator reliability including first order construct*

Indicator reliability can be measured by the outer loadings higher than 0.708, which are recommended by Hair et al. (2019). In general, outer loadings between 0.40 and 0.70 may be considered for terminating whether it contributes to the increase of composite reliability and average variance extracted (AVE) (Hair et al., 2014, 2017). For the current study, the outer loadings are ranged from 0.739 to 0.869, as presented in Table 3, thus making all indicators remain on the model.

##### *4.1.2 Internal consistency including the first-order construct*

Internal consistency refers to the reliability that determines the consistency of output over the items of a similar test, and it can be examined by both Cronbach's alpha and the composite reliability (Hair et al., 2017), which the adequate threshold of them are equal

or higher than 0.7 (Garson, 2016; Hair et al., 2014, 2017). For the current study, the values of Cronbach's alpha and the values of composite reliability as stated in Table 3 are 0.780 to 0.915; thus, the current study has internal reliability adequately.

#### 4.1.3 Convergent validity including the first-order construct

Convergent validity refers to the range of correlation of the measure and alternative measures under a similar construct (Hair et al., 2014, 2017). It can be measured by the AVE, which the acceptable level is 0.50 and above (Hair et al., 2017, 2019). For the current study, the AVE values of all latent constructs are 0.636 to 0.716 (see Table 3), hence, convergent validity is confirmed for this study.

#### 4.1.4 Discriminant validity including the first-order construct

Discriminant validity is the range of real distinction of a construct to other constructs by the observational standards (Hair et al., 2014). The Fornell-Larcker criterion (1981) can assess the discriminant validity by the square root's AVE in each construct, which should be greater than its most significant correlation of other constructs (Hair et al., 2017).

**Table 3** Assessment of measurement model including the first-order construct

Latent constructs and items	Convergent validity		Internal consistency reliability		Discriminant validity
	Outer loading	AVE	Composite reliability	Cronbach's alpha	HTMT confidence interval does not include 1
	> 0.708	> 0.50	> 0.70	> 0.70	
AT		0.669	0.890	0.834	Yes
AT1	0.802				
AT2	0.801				
AT3	0.871				
AT4	0.794				
SN		0.694	0.901	0.852	Yes
SN1	0.838				
SN2	0.866				
SN3	0.856				
SN4	0.770				
CO		0.698	0.873	0.780	Yes
CO1	0.739				
CO2	0.891				
CO3	0.869				
EC		0.683	0.915	0.884	Yes
EC1	0.787				
EC2	0.841				
EC3	0.846				
EC4	0.827				
EC5	0.830				

**Table 3** Assessment of measurement model including the first-order construct (continued)

<i>Latent constructs and items</i>	<i>Convergent validity</i>		<i>Internal consistency reliability</i>		<i>Discriminant validity</i>
	<i>Outer loading</i>	<i>AVE</i>	<i>Composite reliability</i>	<i>Cronbach's alpha</i>	<i>HTMT confidence interval does not include 1</i>
	<i>&gt; 0.708</i>	<i>&gt; 0.50</i>	<i>&gt; 0.70</i>	<i>&gt; 0.70</i>	
OE		0.653	0.904	0.867	Yes
OE1	0.808				
OE2	0.812				
OE3	0.801				
OE4	0.835				
OE5	0.785				
RN		0.636	0.897	0.857	Yes
RN1	0.746				
RN2	0.801				
RN3	0.808				
RN4	0.811				
RN5	0.819				
TR		0.662	0.907	0.872	Yes
TR1	0.783				
TR2	0.814				
TR3	0.847				
TR4	0.826				
TR5	0.799				
FU		0.716	0.910	0.868	Yes
FU1	0.864				
FU2	0.835				
FU3	0.849				
FU4	0.836				
EP		0.673	0.911	0.878	Yes
EP1	0.798				
EP2	0.800				
EP3	0.841				
EP4	0.841				
EP5	0.819				

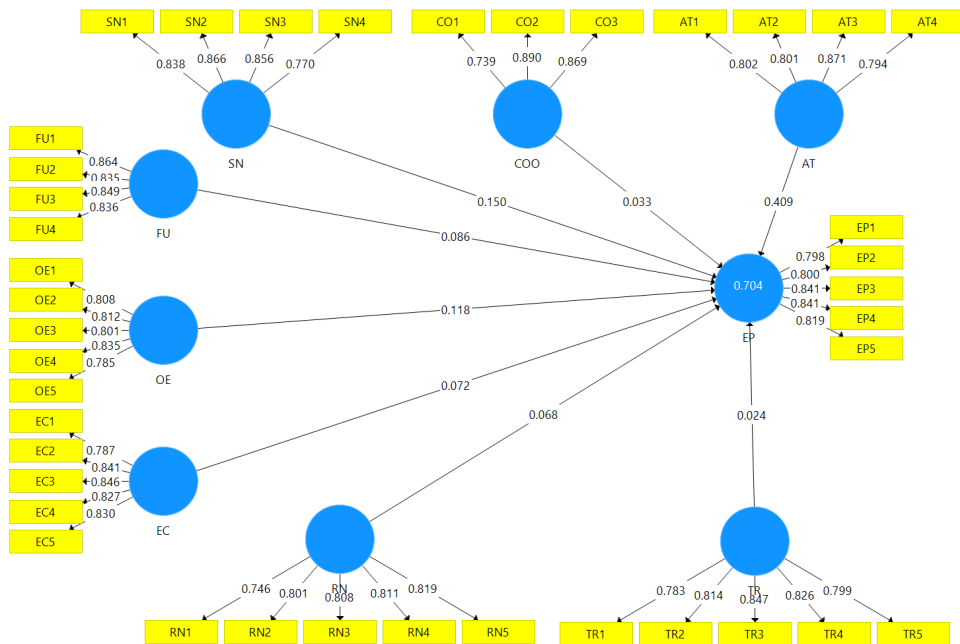
The discriminant validity can also be measured by heterotrait-monotrait (HTMT) statistic test by implementing on bootstrapping that creates 5,000 number of random subsamples, and whether the HTMT confidence interval (confidence intervals bias-corrected) is significantly excluded or different from 1.00; discriminant validity is established (Hair et al., 2017).

**Table 4** Fornell-Larcker criterion (the first-order construct)

	AT	COO	EC	EP	FU	OE	RN	SN	TR
AT	0.818								
COO	0.432	0.836							
EC	0.720	0.446	0.827						
EP	0.797	0.441	0.701	0.820					
FU	0.664	0.386	0.631	0.655	0.846				
OE	0.718	0.460	0.735	0.715	0.722	0.808			
RN	0.713	0.450	0.745	0.701	0.703	0.774	0.798		
SN	0.766	0.467	0.738	0.725	0.594	0.682	0.687	0.833	
TR	0.705	0.449	0.758	0.685	0.733	0.765	0.768	0.652	0.814

For the current study, the Fornell-Larcker criterion presented in Table 4 indicates that the square root's AVE in each construct is more remarkable than its most significant correlation of other constructs. The HTMT statistic indicates that the confidence intervals are not equal to 1.00; thus, discriminant validity is established in this study (see Table A1).

**Figure 3** Measurement model including the first-order construct (see online version for colours)



#### 4.2 Results of assessment measurement model including the second order construct

The ORS brand equity construct is the reflective construct, for which the researchers still follow the criteria that assess the measurement model, including the first-order construct



by indicator loadings, internal consistency, convergent validity, and discriminant validity, respectively (Hair et al., 2017).

#### 4.2.1 Indicator reliability including the second-order construct

The indicator reliability can be measured by outer loadings, in which the values are higher than 0.708, as recommended by Hair et al. (2019). For the current study, the model's outer loadings are 0.850 to 0.907, as presented in Table 5. Therefore, all indicators have remained on the scale.

#### 4.2.2 Internal consistency including the second-order construct

Internal consistency can be measured by Cronbach's alpha and composite reliability value, and the threshold levels are at least 0.70, which indicates acceptable reliability (Hair et al., 2014, 2017). For the current study, as presented in Table 5, the value of Cronbach's alpha is 0.932, and the value of the composite reliability is 0.949, indicating that the current study has internal reliability adequately.

#### 4.2.3 Convergent validity including the second-order construct

Construct's convergent validity can be measured by the AVE; the AVE acceptable level is 0.50 and above (Hair et al., 2017, 2019). For the current study, as presented in Table 5, the AVE value is 0.787; hence, convergent validity is confirmed.

**Table 5** Assessment of measurement model including the second-order construct

<i>Latent constructs and items</i>	<i>Convergent validity</i>		<i>Internal consistency reliability</i>		<i>Discriminant validity</i>
	<i>Outer loading</i>	<i>AVE</i>	<i>Composite reliability</i>	<i>Cronbach's alpha</i>	<i>HTMT confidence interval does not include 1</i>
	<i>&gt; 0.708</i>	<i>&gt; 0.50</i>	<i>&gt; 0.70</i>	<i>&gt;0.70</i>	
ORS brand equity		0.787	0.949	0.932	Yes
EC	0.874				
OE	0.903				
RN	0.901				
TR	0.907				
FU	0.850				

#### 4.2.4 Discriminant validity including the second-order construct

Discrimination validity can be measured by the Fornell-Larcker criterion (1981) and HTMT statistic (Hair et al., 2017) by following the measurement model's criteria, including the first-order construct.

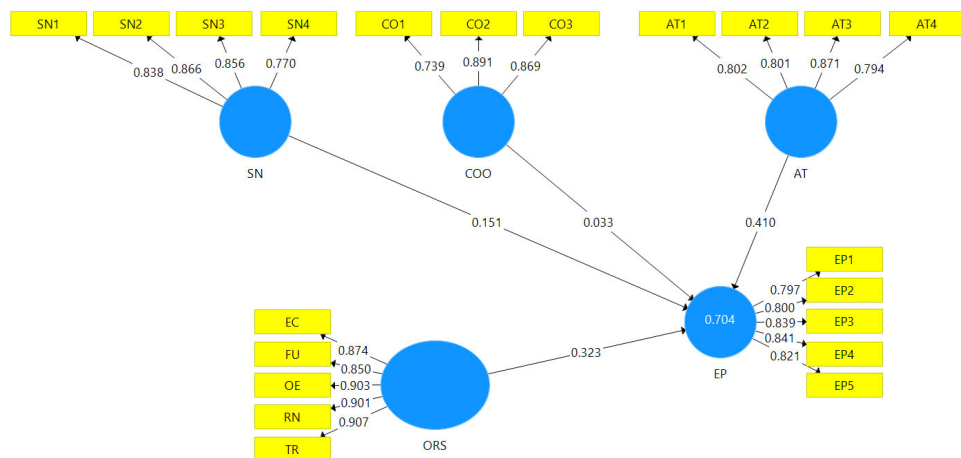
For the current study, the Fornell-Larcker criterion, the square root's AVE in each construct is more remarkable than its most significant correlation of other constructs (see Table 6). Furthermore, the HTMT statistic illustrates that the confidence intervals are not

equal to 1.00 (see Table A1). Therefore, discriminant validity is established for the model of the current study.

**Table 6** Fornell-Larcker criterion (the second-order construct)

	<i>AT</i>	<i>COO</i>	<i>EP</i>	<i>ORS</i>	<i>SN</i>
<i>AT</i>	0.818				
<i>COO</i>	0.432	0.836			
<i>EP</i>	0.797	0.441	0.820		
<i>ORS</i>	0.794	0.494	0.779	0.887	
<i>SN</i>	0.766	0.467	0.726	0.756	0.833

**Figure 4** Measurement model including the second-order construct (see online version for colours)



### 4.3 Results of assessment of the structural model

The evaluation of structural measurement can be measured in six steps, namely collinearity assessment, size and significance of path coefficients, coefficients of determination ( $R^2$ ), predictive relevance ( $Q^2$ ),  $f^2$  effect sizes, and  $q^2$  effect sizes (Hair et al., 2017, 2019), respectively.

#### 4.3.1 Collinearity

Collinearity test is necessary to confirm that the structural relationships do not bias the regression results (Hair et al., 2017). The inner variance inflation factor (VIF) value is higher than 0.2 and lower than 5; thus, the predictor constructs are not engaged in critical collinearity level (Hair et al., 2017). For the current study, the inner VIF values are 1.009 to 3.323, which indicate that the structural model does not engage in a collinearity issue (see Table 7).

**Table 7** Inner VIF

	<i>AT</i>	<i>AT*COO</i>	<i>COO</i>	<i>EP</i>	<i>ORS</i>	<i>SN</i>
AT				3.291		
AT*COO				1.009		
COO				1.361		
EP						
ORS				3.323		
SN				2.894		

4.3.2 Hypothesis testing

For hypothesis testing, the significance of path coefficients is determined by 5,000 bootstrap subsamples of bootstrapping (Hair et al., 2017). In the marketing field, scholars usually employ a 5% significance level (Hair et al., 2017). For the one-tailed tests, the critical t-value is 1.65, and the p-value should be less than 0.05 (Hair et al., 2017). If the t-value is more than the critical value and the p-value is less than the significance level, and the bootstrap’s confidence interval is different from zero, the path coefficient is significant (Hair et al., 2017).

**Table 8** Hypothesis testing

<i>Hypothesis</i>	<i>Path coefficients</i>	<i>t-value</i>	<i>p-value</i>	<i>95% confidence intervals</i>	<i>Significance (p &lt; 0.05)</i>	<i>Decision</i>
H1 AT → EP	0.422	5.786	0.000	[0.299, 0.539]	Yes	Support
H2 SN → EP	0.146	2.546	0.005	[0.053, 0.242]	Yes	Support
H3 ORS → EP	0.313	5.037	0.000	[0.212, 0.417]	Yes	Support
H4 COO → EP	0.035	1.167	0.122	[-0.014, 0.085]	No	Not support
H5 AT*COO → EP	-0.074	2.423	0.008	[-0.120, -0.050]	Yes	Support

As presented in Table 8, H1 predicts that the attitude towards behaviour has a positive and significant impact on the e-marketplace patronage intention; the result indicates that H1 is supported ( $\beta = 0.422, t\text{-value} = 5.786, p < 0.05$ ). H2 predicts that subjective norm has a positive and significant impact on the e-marketplace patronage intention; the result indicates that H2 is supported ( $\beta = 0.146, t\text{-value} = 2.546, p < 0.05$ ). H3 predicts that ORS brand equity has a positive and significant impact on the e-marketplace patronage intention; the result indicates that H3 is supported ( $\beta = 0.313, t\text{-value} = 5.037, p < 0.05$ ). However, H4 predicts that the effect of COO has a positive and significant impact on the e-marketplace patronage intention; the result indicates that H4 is not supported ( $\beta = 0.035, t\text{-value} = 1.167, p > 0.05$ ). H5 predicts that the relationship between attitude towards behaviour and the e-marketplace patronage intention is positively moderated by the effect of the COO. The result of hypothesis testing is significant; however, the

interaction effect is the negative impact ( $\beta = -0.074$ ,  $t$ -value = 2.423,  $p > 0.05$ ). Therefore, H5 is supported.

### 4.3.3 Coefficients of determination ( $R^2$ )

Coefficients of determination ( $R^2$ ) assess the model’s predictive accuracy, which is indicated by the amount of endogenous construct variances described by exogenous constructs (Hair et al., 2014). The threshold  $R^2$  values of 0.25, 0.50 and 0.75 illustrate weak, medium and substantial for target constructs respectively (Hair et al., 2017). Moreover, to reduce bias, the adjusted  $R^2$  can be employed instead of the actual  $R^2$  (Garson, 2016). For the current study, as presented in Table 9, the  $R^2$  value is 0.711, and the adjusted  $R^2$  is 0.707, which indicate the value of  $R^2$ , and adjusted  $R^2$  are considered medium for the target construct.

### 4.3.4 $f^2$ effect sizes

$f^2$  effect sizes indicate how significant endogenous constructs are when changing  $R^2$  by omitting particular exogenous constructs (Hair et al., 2014). The threshold values of  $f^2$  are 0.02 0.15 and 0.35, demonstrating the small, medium and large effect respectively, however, the exogenous construct explains no effect if  $f^2$  is lesser than 0.02 (Hair et al., 2017).

As presented in Table 9, the  $f^2$  effect size of attitude towards behaviour is a medium effect. The  $f^2$  effect size of moderating effect between attitude towards behaviour and the e-marketplace patronage intention, ORS brand equity, and the subjective norm states a small effect, and there is no  $f^2$  effects for the effect of COO.

**Table 9** Assessment of structural model

	$R^2$	$R^2$ adjusted	$f^2$ effect sizes		$Q^2$ value		
			$R^2$	Effect size	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
AT			0.187	Medium effect	1,596.000	1,596.000	
AT*COO			0.024	Small effect	4,788.000	4,788.000	
COO			0.003	No effect	1,197.000	1,197.000	
EP	0.711	0.707			1,995.000	1,063.255	0.467
ORS			0.102	Small effect	1,995.000	1,995.000	
SN			0.026	Small effect	1,596.000	1,596.000	
$q^2$ effect sizes							
			$Q^2$ included	$Q^2$ excluded	$q^2$	Effect size	
AT			0.467	0.431	0.068	Small effect	
AT*COO							
COO			0.467	0.465	0.004		
EP							
ORS			0.467	0.444	0.043	Small effect	
SN			0.467	0.462	0.009		

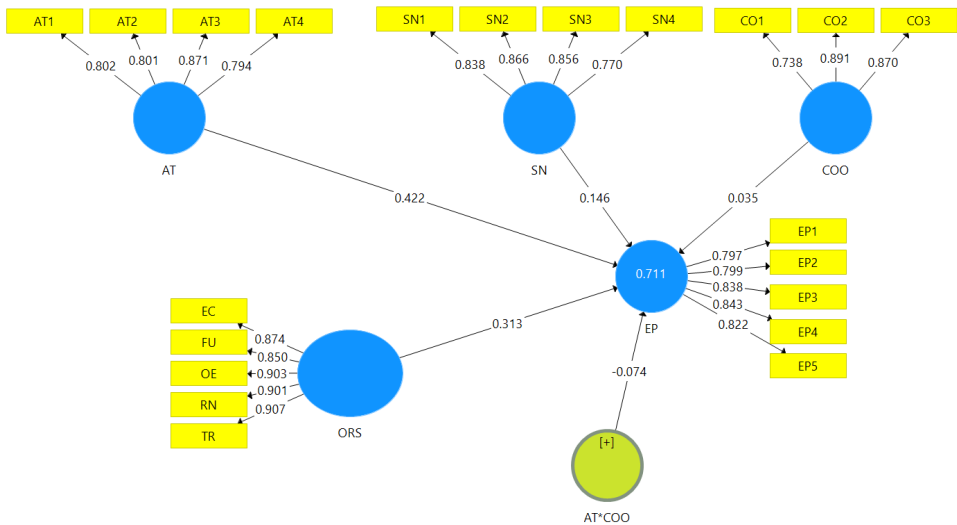
4.3.5 Predictive relevance ( $Q^2$ )

PLS path model’s predictive accuracy can be assessed by  $Q^2$  that employs the blindfolding technique; the outcome of  $Q^2$  values is significantly more than 0 (Hair et al., 2014). Generally, the higher  $Q^2$  values are, the more highly accurate the PLS path model is; besides, the threshold value of  $Q^2$  is higher than 0, 0.25 and 0.5 illustrating small, medium and large predictive relevance, respectively (Hair et al., 2019). For the current study, as presented in Table 9, the result of  $Q^2$  is 0.467; the model explains the medium predictive relevance of the path model.

4.3.6  $q^2$  effect sizes

$q^2$  effect sizes can evaluate a predictor construct’s relative predictive relevance (Hair et al., 2017). The threshold  $q^2$  values of 0.02, 0.15 and 0.35 demonstrate small, medium and large effects, respectively (Hair et al., 2017). For the current study, as presented in Table 9, the  $q^2$  of exogenous variables illustrate the  $q^2$  effect size of attitude towards behaviour, and the ORS brand equity shows a small effect.

Figure 5 Structural model (see online version for colours)



5 Discussion

According to the hypothesis tests, the study results can be discussed in the following: firstly, due to the behaviour intention is regarded as ‘the conative component of attitude’ [Fishbein and Ajzen, (1975), p.289], that is why the attitude towards behaviour can influence behaviour intention (Fishbein and Ajzen, 1975). Therefore, Hypothesis 1 is supported.

Secondly, due to the complication of the decision process on various products, consumers are likely to define themselves on products they feel that they belong in and can share attitudes with peer groups (Langner et al., 2013). Therefore, the subjective

norm positively influences the e-marketplace patronage intention, and Hypothesis 2 is supported.

Thirdly, the previous study stated that CBBE brand equity impacted physical store patronage intention because it dealt with recalling positive satisfaction in past purchasing experiences and reflected influences on the future patronage (Allaway et al., 2011). The ORS brand equity is similar to other forms of CBBE brand equity, but it focuses on online sectors (Christodoulides et al., 2006). Therefore, Hypothesis 3 is supported.

Fourth, the effect of COO is not significantly influenced the e-marketplace patronage intention; therefore, Hypothesis 4 is not supported. This was consistent with Tay (2019), who concluded that willingness to purchase in foreign grocery shops is not affected by the COO clue because consumers might evaluate the foreign retailer's COO in the different ways of the foreign products. Therefore, the consumer may also not perceive the e-marketplace origin in the same way as the product origin.

Lastly, the effect of COO moderates the relationship between the attitude towards behaviour and the e-marketplace patronage intention; thus, Hypothesis 5 is supported. However, the moderating effect is negative; the stronger the effect of COO is, the less the attitude towards behaviour on the e-marketplace patronage will be.

It is consistent with Nasution and Rossanty (2018) that the effect of COO can weaken the relationship between the effect of halal labelling and imported frozen product buying behaviour of the Indonesians.

The negative value of moderating effect of the current study may be caused by the majority of e-marketplaces that the respondents patronised are originated from China; however, the previous focus group study indicated that at the top of Thai consumer minds, they perceived products from China as low-priced, low-cost, low-quality, counterfeit, including low standard (Rungkasiri, 2008). However, despite the poor reputation of the e-marketplace origin, Thai online shoppers may still be willing to purchase from foreign vendors e-marketplace because the e-marketplace platforms provide a feature of communication in the Thai language (Yuekngin, 2018).

## **6 Implications**

The current study provides the theoretical implication by strengthening the efficacy of the extended TRA framework with the ORS brand equity as an independent variable and the effect of COO as a moderator variable for predicting the e-marketplace patronage intention.

The practical contributions are also provided to the e-marketplace operators, particularly the local operators and related e-commerce business of both government and private sectors:

Firstly, increasing the preference of purchasing in a particular e-marketplace brand influences the patronage intention. However, in the crisis of COVID-19, the risk attitude by referring to consumer's interpretation of the risk and level of dislike of the content, demanding demands to simplify value-oriented products, and resistance to unlawful and unethical business is highly concerned (Mehta et al., 2020). Hence, in the crisis period, the marketing strategies for e-marketplace should increase the brand's likeness by emphasising simplicity and ease of understanding, avoiding risk attitude, legal and ethical responsibilities.

Secondly, the influencer is the external people who impact consumer choice (Chopra et al., 2020). Comment of influencer is precious to the social groups because of their expertise, integrity, and knowledge (Langner et al., 2013). The subjective norm impacts the e-marketplace patronage intention; hence, using influencer marketing can be the way to patronise the consumer's e-marketplace intention.

Thirdly, for the online companies, an inference is made that the higher the investment in marketing to build the brand, the higher their market value and sales growth will be (Kotha et al., 2001). The ORS brand equity is a significant factor for the patronage intention; therefore, the e-marketplace operator should build the brand equity by investing in the ORS brand equity components.

Finally, the e-marketplace brand origin has no impact on the patronage intention; therefore, it may be unnecessary to spend the marketing efforts to establish the issue on the consumer minds. Nonetheless, the origins of the e-marketplace brand in the marketing communication tools need to be concerned as it can decrease the attitude towards behaviour on the e-marketplace patronage intention.

## 7 Limitations of future research

The current study has some limitations that should be considered for future studies. The pandemic of COVID-19 has caused enormous changes in online shopping behaviour; many researchers still suspect that the consumers will remain or resume their previous behaviour after the ending of the crisis (Mehta et al., 2020; Sheth, 2020). Therefore, the study replication in another period of time may be necessary for the validity of the study.

Besides, studying in other regions of the country and other age groups of the population are recommended. Thailand will be the first developing country to engage in a hyper-aged society in 2035 (Chittinandana et al., 2017). Hence, the buying behaviour of the aging group will create curiosity for further investigation.

Lastly, the e-marketplaces overgrew in 2019, which turned out to be in contrast to the declining social media commerce in market share (Jan, 2020). As a substitute channel of e-marketplace, the social media commerce patronage intention is also essential to be investigated.

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Appendix

Figure A1 Sample sizes from G\*Power analysis (see online version for colours)

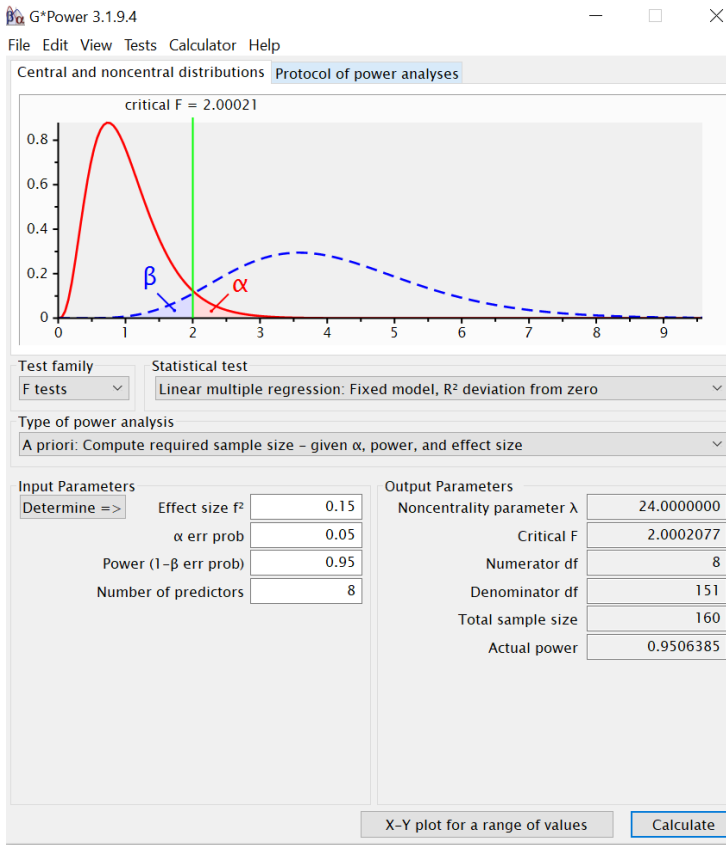


Table A1 (a) Confidence intervals bias corrected (HTMT) (the first-order construct)

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Bias</i>	<i>2.5%</i>	<i>97.5%</i>
COO → AT	0.537	0.538	0.000	0.428	0.632
EC → AT	0.841	0.841	0.000	0.780	0.894
EC → COO	0.540	0.539	-0.001	0.441	0.629
EP → AT	0.926	0.926	0.000	0.869	0.969
EP → COO	0.532	0.532	0.000	0.429	0.625
EP → EC	0.792	0.792	0.000	0.717	0.852
FU → AT	0.777	0.777	0.000	0.706	0.838
FU → COO	0.470	0.470	0.000	0.360	0.567
FU → EC	0.718	0.718	-0.001	0.644	0.783
FU → EP	0.747	0.748	0.000	0.673	0.811
OE → AT	0.843	0.843	0.000	0.786	0.894
OE → COO	0.562	0.562	0.000	0.466	0.649

**Table A1** (a) Confidence intervals bias corrected (HTMT) (the first-order construct) (continued)

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Bias</i>	<i>2.5%</i>	<i>97.5%</i>
OE → EC	0.840	0.840	-0.001	0.785	0.885
OE → EP	0.818	0.818	0.000	0.750	0.873
OE → FU	0.830	0.831	0.000	0.774	0.880
RN → AT	0.843	0.843	0.000	0.781	0.897
RN → COO	0.551	0.550	-0.001	0.451	0.641
RN → EC	0.855	0.855	0.000	0.796	0.904
RN → EP	0.806	0.806	0.000	0.737	0.860
RN → FU	0.814	0.814	0.001	0.755	0.865
RN → OE	0.898	0.899	0.000	0.849	0.938
SN → AT	0.907	0.907	0.000	0.849	0.954
SN → COO	0.574	0.573	0.000	0.465	0.669
SN → EC	0.850	0.849	-0.001	0.788	0.903
SN → EP	0.836	0.836	0.000	0.771	0.888
SN → FU	0.690	0.690	0.000	0.597	0.770
SN → OE	0.793	0.793	0.000	0.721	0.852
SN → RN	0.805	0.804	-0.001	0.742	0.856
TR → AT	0.826	0.825	0.000	0.762	0.879
TR → COO	0.547	0.547	0.000	0.447	0.635
TR → EC	0.864	0.863	-0.001	0.812	0.908
TR → EP	0.780	0.780	0.000	0.701	0.836
TR → FU	0.841	0.841	0.000	0.782	0.891
TR → OE	0.879	0.879	0.000	0.828	0.921
TR → RN	0.886	0.885	0.000	0.832	0.931
TR → SN	0.757	0.756	-0.001	0.681	0.820

**Table A1** (b) Confidence intervals bias corrected (HTMT) (the second-order construct)

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Bias</i>	<i>2.5%</i>	<i>97.5%</i>
COO → AT	0.537	0.537	0.000	0.429	0.632
EP → AT	0.926	0.926	0.000	0.872	0.969
EP → COO	0.532	0.531	-0.001	0.433	0.622
ORS → AT	0.900	0.899	0.000	0.854	0.937
ORS → COO	0.581	0.581	0.000	0.493	0.657
ORS → EP	0.859	0.858	0.000	0.802	0.905
SN → AT	0.907	0.907	0.000	0.850	0.958
SN → COO	0.574	0.573	0.000	0.468	0.663
SN → EP	0.836	0.835	0.000	0.774	0.888
SN → ORS	0.848	0.847	-0.001	0.797	0.893