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Purchase Intention of Made-in-China Medical Devices among Malaysians: Does COO Effect Work?

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Made-in-China products are getting popular around the world. Overcoming the 'low quality' perception or unfavorable country of origin (COO) effect is imperative not only for China marketers but also for any related business in other markets. Despite their huge popularity, understanding of market responses and perceptions towards China products remain unclear, especially in the technology-advanced healthcare sector. Based on the Theory of Reasoned Action (TRA) and COO effect, this study examined how subjective norms, self-image congruence and stereotype affected Malaysian consumers' attitude and purchase intention of Made-in-China medical devices. 200 questionnaires in total were distributed among buyers in Malaysian public and private hospitals. A total of 178 valid responses were collected adopting purposive sampling technique. Findings indicated a significant impact of consumer attitude on purchase intention and attitude was found to be driven by subjective norms and stereotypes (warmth and competence), but not self-image congruency. The study also showed significant mediating effects of consumer attitude on the relationship between subjective norms and stereotype (competence) on purchase intention. The findings provide valuable insights to assist marketers in tapping into the Made-in-China medical device

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market as well as helping healthcare agencies plan and implement effective policy and marketing communication strategies.

keywords: country of origin, purchase intention, medical device, stereotype, self-image congruence.

1 Introduction

The twenty-first century is experiencing a significant social transformation with an increase in life expectancy and a decline in fertility and birth rates. The United Nations (2017) projects the number of people aged 60 and above to reach 2.1 billion in 2050 or 22% of the world population. In Malaysia, life expectancy shows a dramatic increase and the percentage of the population above 65 years old will arrive at 7.2 percent (Department of Statistic Malaysia, 2016). Most countries face major challenges to ensure that their health and social systems are ready to make the most of this demographic shift (WHO, 2021). Aging societies are expected to have or be prevalent to health-related illnesses, acute and chronic diseases, and multiple debilitating effects, which may lead to both physical and social changes (Dalmer, 2019), as well as create demands for advanced and cheaper sources of medical devices (Fabbri et al., 2020). The global medical device market was USD $209 billion in 2016 (Acmite Market Intelligence, 2019), meanwhile the Malaysian medical device industry traded USD $2.04 billion in total with overall imported medical device value recorded at nearly USD $580 million in 2017 (Export.gov, 2018).

Consumer buying behavior varies across product types and buying situations. Country-of-origin (COO) is one factor found to affect consumer decision-making and shaping behavior. Defined as situations where "*a consumer (sub) consciously incorporating a COO stimulus [. . .] as an evaluative element in their formation of an attitude towards a product*" (Bloemer et al., 2009, p.63), several COO-related consumer studies propose that consumers frequently associate a product's home country image, people and culture as a summary cue to evaluate, perceive and consider in making buying decisions (Islam and Hussain, 2022; Wilcox, 2015). Consumers even relate a certain product category (i.e. label info) and product design (i.e. workmanship) to a particular country (i.e. China) when making predictions about an unknown product's attributes (Maheswaran, 1994). For instance, people prefer French over Australian wines, German to China cars, and Parisian over Indian fashion. In these cases, COO serves as heuristic or cognitive short-cuts which could be positive or negative product evaluations (Costa et al., 2016) for products manufactured in a particular country, which influence attitudes and purchase intention (Dobrenova and Terlutter, 2015; Ting et al., 2016; Brodowsky et al., 2018; Mady, 2018; Yang et al., 2019). In other words, consumers tend to generalize and summarize beliefs and stereotype products they are exposed to (Greenwald and Banaji, 1995), which in turn affect their attitudes and purchase intention (Hien et al., 2020).

In the medical device's context, in the absence of a well-known brand or unfamiliar products (Maheswaran, 1994), consumers might stereotype performance based on

peripheral or heuristic cues such as country-of-origin (Reardon et al., 2017), or other extrinsic cues such as the influence of peers and social contacts as well as intrinsic factors such as self-image congruency. Also, the China medical device market is expected to experience the highest growth during the 2017-2025 period (Euromonitor International, 2018). With equal functional performance (i.e. delivers similar functions and applications), Made-in-China products enjoy cheaper production costs due to economies of scale and lower labor costs (Zeng, 2016). However, negative beliefs and perceptions are widespread (Sarwar et al., 2013) by stereotyping China as a producer of low cost but poor quality goods (Chinen et al., 2014). Mass production and counterfeit design issues have further led to poor functional value perceptions, including poor product quality, skillfulness, performance and competence (Mohan et al., 2017). These negative perceptions are consequently converted into consumers' lower level of trust, willingness to pay, loyalty, and higher perceived purchase risk (Chailan and Ille, 2015; Lingg et al., 2017).

Despite these market concerns, examination of COO effects in the B2B context particularly in the medical devices sub-sector is limited. The focus of COO studies is still general consumer goods (Brodowsky et al., 2018; Yang et al., 2019; Rodrigo et al., 2019). Furthermore, many studies suggest that the esteem accorded to foreign products in developing nations prevails because they are perceived as enhancing consumers' identity, social status and needs (Rodrigo et al., 2019). Although COO studies are conducted in different contexts on different consumer segments (Mohan et al., 2017; Chailan and Ille, 2015), social value especially in the context of negative COO effects related to products manufactured by emerging markets (Brouthers and Xu, 2002) such as China is not examined. Furthermore, examination of COO effects of a developing nation in other developing nations is insufficient. This study hence seeks to fill in the knowledge gaps by examining the factors contributing to Malaysian consumers' attitude and buying intention toward buying Made-in-China medical devices, adopting the COO effect and Theory of Reasoned Action (TRA).

2 Review of Literature

2.1 Subjective Norms and Attitude

The Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) posits human behavior as a combination of behavioral and normative beliefs. Attitude towards the behavior belief is defined as an "*individual general feeling of favorable or unfavorable for that behavior*" (Ajzen and Fishbein, 1980, p.216). Meanwhile, normative belief is defined as "*important referent individuals or groups [who] approve or disapprove of performing a given behavior*" (Ajzen, 1991, p.195), where subjective norm acts as a social pressure which influences individuals to perform what is and what is not in the behavior. Although TRA has been widely studied across various consumer product types (Yang et al., 2019) and settings such as counterfeit luxury goods (Ting et al., 2016), China brands (Yang et al., 2019) and pioneer brands in a specific range of category (Mady, 2018), there is a lack of study in the context of B2B medical device markets.

Consumers, particularly those in a collectivist culture, portray a higher tendency

to link to social norms and pressure (Ting et al., 2016; Yang et al., 2019; Lee and Nguyen, 2017). They consider and make their buying decision based on the approval and suggestion of the surrounding people who are important to them. Higher perceived social pressure hence leads to higher purchase intention (García-Gallego and Mera, 2017). Thus, the subjective norm is expected to play a vital role in influencing consumer attitude toward Made-in-China medical devices in a collective society such as Malaysia. The following hypothesis is developed:

H1: Subjective norm has a positive effect on customer attitude towards buying Made-in-China medical devices.

2.2 Self-Image Congruence

Self-image congruence is seen as the match or mismatch between consumer's self-image and the brand image (Sirgy, 1986). Studies by Kastanakis and Balabanis (2014) and Liu et al. (2012) argue that consumers demonstrate positive attitude and purchase intention toward products that portray a similar image to their own self-image to satisfy their social approval needs (Sirgy et al., 1997)) (which further lead them to use similar products (Sirgy et al., 1997). Phang and Goh (2019) confirm high self-congruity leads to formation of brand love which later contributes towards customer loyalty, corroborated Rodrigo et al. (2019)'s findings on the importance of self-image congruence among elite Sri Lankan consumers. Although medical devices are bought for organizational usage, the purchase decision is ultimately made by individuals (Moon and Oh, 2017). Therefore, self-image is relevant in forming business purchase intention. Based on this, it is hypothesized that:

H2: Self-image congruence has a positive effect on customer attitude towards buying Made-in-China medical devices.

2.3 Stereotype

As aforementioned, people use country image as a summary cue in considering and evaluating products or brands originating from a target country (Bilkey and Nes, 1982). Relating a product or brand to a national identity with symbolic or emotional meanings (Herz and Diamantopoulos, 2013) may lead to country-induced bias, potentially shaping and affecting consumer attitudes towards foreign-made products. According to Cuddy et al. (2008, p.631), "*the warmth and competence stereotypes respectively stem from appraisals of the potential harm and benefit of the target's group goals and the degree to which the group can effectively ... those goals.*" Group members evaluate another group based on the perceived intentions of the following group (warmth) along with the ability of that group to perform on its intentions (competence). The COO researchers found warmth dimension plays a stronger role in the evaluation of hedonic goods) (while competence dimension is more prominent in determining COO evaluations of utilitarian goods (Chattalas and Takada, 2013). This study examined warmth and competence as antecedents of consumers' attitude (Cuddy et al., 2008) due to its potential to shape consumer response to COO signals. For instance, COO relates a product to a national identity with symbolic and/or emotional attachments could be non-quality or product-

based (Herz and Diamantopoulos, 2013) and the country-induced element (stereotype) being one of the antecedents to attitude towards the foreign-made product (Moon and Oh, 2017). Based on this, the following hypotheses were developed:

H3a: Stereotype (warmth) has a positive effect on customer attitude towards buying Made-in-China medical devices.

H3b: Stereotype (competence) has a positive effect on customer attitude towards buying Made-in-China medical devices.

2.4 Effect of Consumer Attitude towards Made-in-China Medical Devices and Purchase Intention

Fishbein's behavioral intention model points to a relationship between attitude and behavioral intention. Attitude towards a behavior is defined as "*an individual's positive or negative feeling about performing the target behavior*" (Fishbein and Ajzen, 1975) with attitude an established disposition. Numerous studies support the positive relationship between attitude and behavioral intention across industries (Zhang et al., 2007), countries (Summer et al., 2006) and products (Malhotra and McCort, 2001). In line with TRA, we suggest a similar relationship for consumers' attitude and intention to buy Made-in-China medical devices. Hence, it is hypothesized that:

H4: Customer attitude towards buying Made-in-China medical devices has a positive relationship with purchase intention.

2.5 Mediating Role of Consumer Attitude towards Made-in-China Medical Devices

Attitude is an assessment towards a behavior with some degree of bad or good, positive or negative, or like or dislike. In this study, subjective norm, self-image congruence and stereotype are indirectly related to purchasing intention through attitude. Rodrigo et al. (2019) confirms the mediating roles of attitude in the relationships of subjective norms and self-image congruence on purchase intention for foreign products in Sri Lanka. Subjective norms, for instance, are found to have direct relationships with attitude (Fishbein and Ajzen, 1975) as well as purchase intention (Baker et al., 2007) hence proposing a possible mediating role of attitude. Similarly, a significant positive relationship between self-image congruence and attitude is ascertained by Farhat and Khan (2012) and high self-image congruence leads to higher purchase intention (Rodrigo et al., 2019; Sirgy et al., 1997). Studies examining stereotyping effect also support the impact of attitude on consumer buying intention (Johnstone and Hooper, 2016) and suggest the mediating role of attitudes. Hence, it is hypothesized that:

H5a: Customer attitude towards buying Made-in-China medical devices mediates the relationship between subjective norms and purchase intention.

H5b: Customer attitude towards buying Made-in-China medical devices mediates the relationship between self-image congruence and purchase intention.

H5c: Customer attitude towards buying Made-in-China medical devices mediates the relationship between stereotype (warmth) and purchase intention.

H5d: Customer attitude towards buying Made-in-China medical devices mediates the relationship between stereotype (competence) and purchase intention.

3 Methodology

The purposive sampling technique was adopted to ensure identification and selection of person or group of individuals who were proficient and knowledgeable as well as involved directly with the subject matter. The target population of this study was Malaysian clinicians and non-clinicians working in both public and private healthcare sectors who involved directly in the purchase decision-making of medical devices, or in charge of a particular medical department.

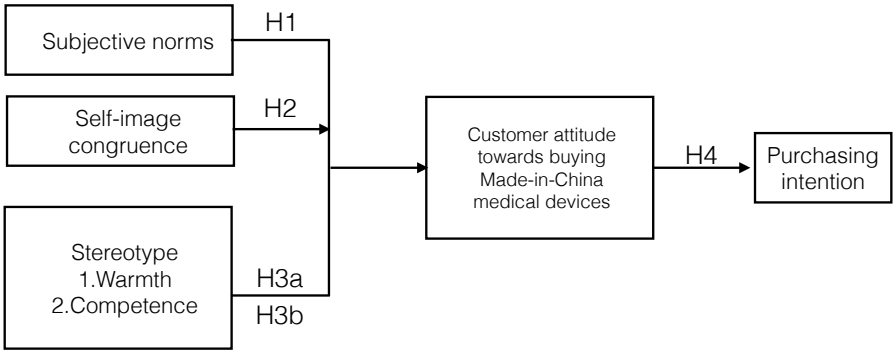

Figure 1: Research Framework

The minimum sample size was determined using G-Power 3.1.9.2 software. With a 95 percent significance level, the recommended minimum sample number was 119 respondents. 200 questionnaires in total were distributed via online and self-distributed modes. A total of 178 valid responses were collected and analyzed (response rate of 89%). Data were analyzed using Statistical Package Social Science (SPSS) v. 22 and SmartPLS v.3 software. All constructs were measured using a five-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5) for all constructs with the exception of "Stereotype (Warmth and Competence)" ranged from "Not at All" (1) to "Extremely" (5). The four measurement items for subjective norm were adapted from Ajzen (1991) while self-image congruence was measured using three items adapted from Sirgy (1986). The measurement for the stereotype dimensions of warmth and competence was adapted from the original scales of Fiske et al. (2018) and used in Halkias et al. (2016) with four items each. Customer attitude was assessed using the three-item scale by Ajzen (1991) and Fuchs and Diamantopoulos (2010). Purchase intention was evaluated using five-scale items adapted from Ajzen and Fishbein (1980) and Putrevu and Lord (1994).

4 Analysis and Findings

The majority of the respondents were males (56.2%) aged between 36 to 40 years old (30.9%) with postgraduate degree qualifications (50%). Most of them worked in the public sector (45.5%) with 16-20 years working experience (31.5%). The medical devices were imported mainly from overseas such as Germany and United States of America. The mean scores for all variables varied from 2.594 to 3.659 with all scores closer to the middle score of 3, except Competence ($M = 3.659$). Standard deviation evaluates the fitness of the data spread around the mean (Halkias et al., 2016) with low values indicating small variations whereas higher values were equated to the data variate larger from each other (Halkias et al., 2016). The values for standard deviation ranged from 0.693 to 0.813.

Harman's single factor test was used to examine Common Method Variance (CMV). Any percentage of the variance of a single component in extraction sum of squared loadings from the results of a study which is less than 50% is an indication that CMV does not affect the result of the data (Podsakoff, 2003). The percentage of variance generated was 40.117% and CMV of no concern. In addition, the guidelines by Tehseen et al. (2017) were examined, and the procedural remedy partially fulfilled whereby different sources were adopted to test both independent and dependent variables.

Next, to confirm convergent validity, factor loadings should be above 0.5, CR should be above 0.7 and AVE should be above 0.5 (Tehseen et al., 2017). All measurement items were retained except SIC1 was deleted due to the low outer loadings. The CR, AVE and factor loadings were then examined and found to be above the acceptable levels, hence convergent validity was assured.

A latent variable should explain better the variance on its own indicators than the variance of other latent variables (Fornell and Larcker, 1981). Fornell and Larcker's Criterion must be fulfilled whereby the square root of the Average Variance Extracted (AVE) should not exceed the intercorrelations of the construct with the other constructs in the model (Fornell and Larcker, 1981). All constructs fulfilled the Fornell and Larcker's Criterion (Table 2).

Bootstrapping procedure with 500 subsamples was performed to assess the structural model and hypothesis testing. According to Hair Jr et al. (2014), R^2 value of 0.75 represents substantial, 0.50 represents moderate and 0.25 represents weak models. R^2 value for attitude is considered low ($R^2 = 0.4892$) and moderate for purchase intention ($R^2 = 0.633$). All hypotheses were supported except H2. Firstly, subjective norms had a positive effect on attitude ($\beta = 0.481$) ($t = 6.559$) ($p < 0.05$)) (this thus supported H. Secondly, no significant relationship was found between self-image congruence and attitude ($\beta = 0.114$) ($t = 1.357$) ($p < 0.05$), not supporting H2. The examination of the relationship between stereotype and attitude found significant effects of warmth ($\beta = 0.096$) ($t = 1.667$) ($p < 0.05$) and competence ($\beta = 0.221$) ($t = 3.952$) ($p < 0.05$), hence supported H3a and H3b. Finally, attitude had a positive relationship with purchase intention ($\beta = 0.796$) ($t = 23.472$) ($p < 0.05$) thus supported H4 (Table 3).

The f^2 effect size could be determined by evaluating whether an omitted construct has a substantial impact on the model due to changes in R^2 values. f^2 value of 0.02

Table 1: Internal Consistency Reliability and Convergent Validity

Construct	Measurement Item	Loading	AVE	CR	Cronbach's Alpha
Subjective Norms	SN1	0.772	0.580	0.847	0.759
	SN2	0.809			
	SN3	0.726			
	SN4	0.737			
Self-Image Congruence	SIC2	0.910	0.790	0.882	0.736
	SIC3	0.866			
Stereotype Warmth	SW1	0.877	0.833	0.952	0.933
	SW2	0.906			
	SW3	0.954			
	SW4	0.912			
Stereotype Competence	SC1	0.897	0.836	0.953	0.935
	SC2	0.940			
	SC3	0.920			
	SC4	0.900			
Consumer Attitude	ATT1	0.861	0.809	0.927	0.882
	ATT2	0.936			
	ATT3	0.900			
Purchase Intention	PI1	0.809	0.739	0.934	0.911
	P12	0.837			
	PI3	0.897			
	PI4	0.900			
	PI5	0.852			

Note: SIC1 was deleted due to low factor loading

Table 2: Discriminant Validity: Fornell and Larcker's Criterion

Construct	Customer Attitude	Purchase Intention	Self-Image Congruence	Stereotype Competence	Stereotype Warmth	Subjective Norms
Customer Attitude	0.900					
Purchase Intention	0.796	0.860				
Self-Image Congruence	0.510	0.551	0.889			
Stereotype Competence	0.400	0.427	0.210	0.914		
Stereotype Warmth	0.342	0.391	0.223	0.275	0.913	
Subjective Norms	0.650	0.660	0.683	0.268	0.332	0.762

Note: Square root of AVE values are shown on the diagonal and printed in bold; off diagonals are the latent variable correlations

Table 3: Hypothesis Testing

Hypothesis	Relationship	Std. Beta	Std. Error	t-values	P Values	Results	R^2	f^2	VIF
H1	Subjective Norms → Customer Attitude	0.481	0.073	6.559	0.000	Supported		0.224	2.031
H2	Self-Image Congruence → Customers Attitude	0.114	0.084	1.357	0.087	Not Supported		0.014	1.877
H3a	Stereotype Warmth → Customer Attitude	0.096	0.058	1.667	0.048	Supported		0.015	1.173
H3b	Stereotype Competence → Customer Attitude	0.221	0.056	3.952	0.000	Supported	0.492	0.085	1.126
H4	Customer Attitude → Purchase Intention	0.796	0.034	23.472	0.000	Supported	6.333	1.724	1.000

Note: Significant at $p < 0.05$, One tailed test: $t > 1.645$

represents a small effect size, 0.15 as medium effect size and 0.35 as large effect size (Hair Jr et al., 2014). Refer to Table 4, customer attitude is found to have a large effect size on purchase intention, followed by subjective norms with a medium effect size and self-image congruence and stereotype with small effect sizes.

Mediation test results indicate customer attitude mediates the relationships between exogenous variables (subjective norms and stereotype competence) and endogenous variable (purchase intention) as there is lack of zero between the values of upper limit (UL) and lower limit (LL) for these two relationships, hence supported H5a and H5d. For H5b and H5c, the results indicating an absence of mediation effect between these self-image congruence and stereotype warmth with purchase intention (Table 4).

Table 4: Mediation Testing

Hypothesis	Relationship	Indirect Effect Beta	Std. Error	t-values	P Values	LL 2.5%	UL 97.5%	Results
H5a	Subjective Norms → Customer Attitude → Purchase Intention	0.383	0.063	6.061	0.000	0.26	0.510	Supported
H5b	Self-Image Congruence → Customer Attitude → Purchase Intention	0.090	0.067	1.345	0.179	-0.037	0.221	Not Supported
H5c	Stereotype Warmth → Customer Attitude → Purchase Intention	0.076	0.046	1.671	0.095	-0.013	0.164	Not Supported
H5d	Stereotype Competence → Customer Attitude → Purchase Intention	0.176	0.044	3.991	0.000	0.092	0.266	Supported

Note: Significant at $p < 0.05$

Stone-Geisser Predictive Relevance (Q^2) provides accurate predictions of the data points of indicators in reflective measurement models. In this study, Q^2 values for

customer attitudes ($Q^2 = 0.368$) and Purchase Intention ($Q^2 = 0.435$) were greater than zero, indicating the construct's predictive relevance.

5 Discussion and Implications

The results of the study indicate interesting findings. First of all, a significant relationship was found between subjective norms and attitude towards buying Made-in-China medical devices, and attitude in turn influences purchase intention. Corroborated (García-Gallego and Mera, 2017)'s study that individuals tend to have higher purchase intention when faced with greater perceived social pressure, consumers try to gain social approval and acceptance from the people important to them via their purchases. The findings also corroborated Pandey and Srivastava (2016)'s study in the context of healthcare products and tallied with other studies conducted in countries with collectivist culture (Ting et al., 2016). Subjective norm is argued to play a major role in purchase intention among collectivist consumers (Yang et al., 2019). The signals that people received from their surroundings might shape their communication and the way they construct and maintain their own self-image, status or prestige as well as promote themselves to others. It could thus be surmised that the higher the cultural characteristics that emphasize social bonding and group interests (Gong et al., 2022), the higher the influence of subjective norms.

Kastanakis and Balabanis (2014) and Liu et al. (2012) argue that consumers demonstrate positive attitude and purchase intention toward products that portray images which correspond to their self-image, particularly for products that are used to enhance social status and self-esteem. Consumers form "*a sense of social relationship with the brand*" with self-congruity inducing brand attachment and love (Liu et al., 2012, p.305). This could be the reason for the insignificant relationship because medical devices serve more functional needs and hence buyers do not relate the purchase to their self-image. Another possible reason could be the high influence of stereotype factor, particularly the competency component, which overshadowed the significant influence of self-image congruence. Yet another reason could be the COO effect. Khan and Bamber (2008) argue that the consumption of China products might not help to enhance customer's self-image and allow him to acquire recognition from his community such as colleagues, peers or staff hence leading to less influence of self-image.

Furthermore, formation of pre-images of the product attributes through direct or indirect experience and knowledge) (product information and familiarity could affect customers (Sarwar et al., 2013). In the case of high technology products such as medical devices, the absence of association or relationship between self-image congruence and customer attitude might have resulted from their lack of knowledge about Made-in-China medical devices. This can be confirmed by the results of the respondent profile, whereby the majority of the respondents bought medical devices imported mainly from developing countries such as Germany and USA.

The significant effect of stereotype warmth and competence, with customer attitude towards buying Made-in-China medical devices implied that national identity of China

holds symbolic and/or emotional meaning to consumers (Cuddy et al., 2008). Reardon et al. (2017) argue that customer attitude could be enhanced when a product fits the stereotype of COO, and in turn increase purchase intention. In fact, stereotype content could be more significant in a developing market (such as Malaysia) compared to developed markets. Consumers stereotype a particular country with certain characteristics which affect their attitude towards buying the products or services produced. The competency-related issues such as capability, efficiency and intelligence were proven to be more critical than warmth in influencing consumer attitudes toward buying medical devices.

A significant relationship between customer attitude and purchase intention towards Made-in-China medical devices was found in this study, corroborated Pandey and Srivastava (2016)'s study on healthcare products and other studies across various industries (Summer et al., 2006), countries (Summer et al., 2006) and products (Malhotra and McCort, 2001). In this study, these attitudes were closely linked to the COO effect, which Brodowsky et al. (2018) and other researchers (Dobrenova and Terlutter, 2015; Rodrigo et al., 2019; Moon and Oh, 2017) argue to affect buying intention.

The results of the mediating test suggest that customer attitude towards Made-in-China medical devices mediates the effects of subjective norms on customer purchase intention. Consumers who rely on the opinion of others for social approval show favorable attitude which in turn leads to higher buying intention. However, the mediation analysis also indicates customer attitude as having neither direct nor indirect relationships with self-image congruence and purchase intention of Made-in-China medical devices. The findings do not support the previous contention that consumers tend to have positive attitude and purchase intention towards a product that projects a similar image to theirs (Rodrigo et al., 2019; Kastanakis and Balabanis, 2014; Liu et al., 2012). Self-image congruence has neither direct nor indirect relationships with consumer attitude and purchase intention.

In terms of stereotype, customer attitude does not mediate the relationship between stereotype (warmth) and purchase intention of Made-in-China medical devices. Despite its significant direct influence on purchase intention, attitude did not play a mediating role. In other words, people have to firstly feel warmth to like the product (supported in H3a), although not translated into buying. The current study also found that customer attitude mediates the relationship between stereotype (competence) and purchase intention towards Made-in-China medical devices. This result is consistent with Halkias et al. (2016) who suggest that competence deploys a positive influence on attitude and through the attitude, influences purchase intention. High competency may produce a general interest and desire for a product which is then translated into preference.

5.1 Contribution and Implications of Research

From a theoretical perspective, this study combined TRA with the COO effect, in which stereotype as well as the perceived self-image congruence were added to the TRA framework. This study contributes to the examination of TRA in a B2B context whereby demands are derived from patients. As reiterated earlier, the study focused on the COO

effect in the context of medical devices is scarce. This study provides a significant contribution to the existing literature particularly on the healthcare sector and enhances knowledge and understanding of how COO affects Malaysian consumers' intention to buy imported products originating from developing countries (in this case, China). The findings point to the significant roles of subjective norms and stereotype, but not self-image congruence in a developing nation (i.e. Malaysia).

From a managerial standpoint, this study offers useful insights on alternative ways to alleviate or moderate the negative COO effects associated with Made-in-China products across cultural contexts. Marketers involved directly or indirectly with China products could benefit in designing an effective marketing mix strategy. In fact, the findings could highlight the important factors influencing buyer attitude and purchase intention. The significant relationship between stereotype (competency), attitude and purchase intention imply a possibility of forming collaborative partnerships between China brands and other brands with highly perceived competency. An example is a strategic partnership between Huawei, a Chinese brand smartphone manufacturer and Leica, a German company known for making some of the best cameras and lenses in the world, allowing Huawei to improve its perceived competency. The acquisition of ThinkPad, the personal computer line of IBM by Lenovo is also another good example.

The findings of this study stress the importance of social influence and attitude value, even in the case of B2B context (e.g. medical devices). Consumers, including business buyers, are influenced by the surrounding people (e.g. superiors, subordinates, peers and other buyers) to form attitude and purchase intention (Jorgensen and Novak, 2020). Stimuli such as brochures, testimonials, certificates and awards could be used to overcome stereotypes, while integrated marketing programs such as contests, rebates and allowances could be utilized to induce purchase intention.

This study may also provide useful insights to Malaysian healthcare providers in setting for health policy, health communication as well as decision-making in terms of cost and expenditure. The public healthcare sector in Malaysia is heavily tax-funded, catering to a majority of the population and providing basic healthcare needs, especially in rural areas (Itoa and Cheerb, 2022). Patients pay minimal fees to access both outpatient clinics and hospital admission. The nominal fees charged to the patients led to the increase in healthcare spending to RM49.7 billion or 4.49 percent of GDP in 2014. Malaysia is facing the aging population due to shifting demographics by 2020 (Department of Statistic Malaysia, 2016), having cheaper alternative medical devices with acceptable quality would thus help to reduce the financial burden of the Ministry of Health. A main reason for the growing inflationary pressure on medical costs is the costly advancement of medical device technology (Wong, 2017). Consequently, careful selection of drugs, supplies and instruments is increasingly necessary for hospital executives as they play important roles in influencing the high healthcare inflation. Funds to purchase new or replacement medical devices especially at public-funded healthcare facilities could be limited. This pushes the need to look for cheaper and reliable alternatives. Nevertheless, overcoming people's perceptions towards COO effect could be an issue if not properly managed. The findings of this study suggest that subjective norms and stereotypes are important in predicting consumer attitude and purchase intention among buyers in the healthcare

industry.

6 Limitations, Future Study and Conclusion

This research acknowledges several limitations which may be the basis for areas of future research. Firstly, consumers may offer different responses to different product categories and whether these products are branded. Due to the unique sample population, the sample size of 178 might be considered small hence limiting the generalization of the findings. In addition, the respondents in this study were mainly from public and private hospitals and excluded private general practitioner clinics, government health clinics and mobile clinics – this thus affects the generalization of the findings.

Future research could be extended to different subcomponents of COO such as the country of production, country of design, country of assembly, country of parts, and country of brand. In addition, due to the broad scope of medical devices, each respondent might have held a different brand or product image when answering the questionnaire – therefore future research could focus on specific medical devices such as product brand or non-brand, product category, product complexity or product type. Consistent with Rodrigo et al. (2019), this study adopted TRA in framework development. Future studies could benefit from the inclusion of other constructs such as customer ethnocentrism and customer animosity or utilize the Theory of Planned Behaviour (TPB) to yield additional insights into other antecedents of customer attitude and purchase intention such as perceived behavioral control.

The advancement of globalization and economic challenges have opened the door for many players in Malaysia. Marketers hence have to concentrate on critical factors contributing to consumer behavior to sustain their competitive edge. This research has empirically corroborated the relationship between subjective norms, self-image congruence and stereotype, and purchase intention. It has also empirically examined the mediating role of customer attitude.

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