

# The Role of Service Marketing Mix in Assessing Youths' Decision-Making Styles

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Despite the growth of STEM careers, higher education institutions face a tremendous talent gap crisis. The crisis occurs as students' enrollment in the STEM programs substantially declined in the last five years. Even though the national education policy employs STEM education as the main agenda compared to non-STEM education, low demands for STEM program signals the mismatch between market needs and programs offered. Thus, this study aims to propose a model to reveal the service marketing mix roles in assessing youths' decision-making styles in the enrollment of STEM programs. Data was collected from 191 undergraduate students in a reputable private university in Malaysia, specialised in STEM programs, and analysed through the PLS-SEM approach. The findings revealed that three marketing mix dimensions (i.e. product, price, prominence) are dominant factors that influence the program enrollment decision-making, since both styles of decision-making (i.e. novelty, brand-consciousness, perfectionist, and high-quality) recorded significant results. Hence, higher education institutions should consider strengthening the marketability and quality of the program, since the product dimension influences both enrollment decision-making styles. The investment to grow the institution's reputation particularly in improving global, regional, and national ranking is an effective strategy as prominence is related to both enrollment decision-making styles.

**Key words:** *Service Marketing Mix, Decision-Making Styles, STEM, Enrollment, Youth*



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## INTRODUCTION

The Industrial Revolution (IR) 4.0 has shifted the global landscape in which science, technology, and innovation are taking place (Maresova et al., 2018; Nagy, Oláh, Erdei, Máté, & Popp, 2018). The higher education (HE) sector was also affected by the movement of IR 4.0 where the teaching methods transformed to technology-driven pedagogy (Lawrence, Lim, & Abdullah, 2019) and the institutions of HE are responsible in preparing graduates with proper skills and relevant qualifications in alignment with the labour market in the era of IR 4.0 (Kamaruzaman, Hamid, Mutalib, & Rasul, 2019; Shahroom & Hussin, 2018). The engineering and technological occupations related to IR 4.0 are in demand (Maisiri, Darwish, & VanDyk, 2019; Ministry of Higher Education, 2018) and science, technology, engineering, mathematic (STEM) program offered a brighter future career to the graduates (Lee, 2017).

Despite the high demand for STEM talents, the decline of students' enrollment in STEM programs in HE institutions at a rapid pace is worrisome (Bahar & Adiguzel, 2016) and has been debated by the researchers and leaders both in government and private institutions (Camilli & Hira, 2019). As an emerging economy, Malaysia intends to generate sufficient STEM talents (Goh & Abdul-Wahab, 2020) but the declining trends of students' enrollment in the STEM program were more pronounced (Ali, Talib, Surif, Ibrahim, & Abdullah, 2019). Even though 30% of the public universities in Malaysia specialised in the STEM program, an average reduction of students' enrollment in STEM programs is approximately 6000 students each year (Ministry of Higher Education, 2019). The Engineering Accreditation Council Malaysia reported that 55 engineering programs in both public and private universities were put to a halt due to the poor demand from the targeted students (Berita Harian, 2019). These issues not only involve the shortage of STEM talents but the survival of HE institutions with specialisation in the STEM area are also affected.

Previous researchers investigate the decline of STEM enrollments phenomenon from various perspectives such as demographic factors, gender (Sadler, Sonnert, Hazari, & Tai, 2012; Ünlü & Dökme, 2018), psychological factors such as motivational factors (Vongkulluksn, Matewos, Sinatra, & Marsh, 2018) intrinsic values (Ball et al., 2017) and student's qualification (Andrée & Hansson, 2013). However, the study that focuses on the marketing variables remains unestablished even though the present global higher education operates in a fierce competitive environment (Tijjang, Kamase, Labbase, & Plyriadi, 2017) and is seen to move to the marketing orientation approach (Soedijati & Pratminingsih, 2011a). Brkanlić et al. (2020) emphasised that the modernisation of global higher education nowadays, is creating tensions which forces them to operate in a marketing orientation approach. Thus, this study aims to investigate the influence of service marketing mix on the decision-making styles on the enrollment of STEM programs among reputable private university in Malaysia with specialisation of the STEM program.

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## LITERATURE REVIEW

### *Service-Marketing Mix and Education Institution*

Edmund Jerome McCarthy is a pioneer who proposed the concept of marketing mix known as 4Ps in the 1960s (Lau, 2016). The marketing mix concept refers to a set of tactical marketing tools (i.e. product, price, place, promotion) to fulfill marketing objectives (Kotler & Armstrong, 2021). After more than five decades, the concept of the marketing mix was used in various research areas such as pharmacist behaviour (Hailu, Workneh, & Kahissay, 2021), small-medium enterprise (Kowalska, 2020), green marketing (Mehraj & Qureshi, 2020), health care marketing (Lim, 2020), and non-profit organisations (Hung, Htwe, & Siong, 2019). The marketing mix concept has evolved in the 1980s when Booms and Bitner proposed a service marketing mix with additional 3Ps namely participants, physical evidence, and process (Lau, 2016). Meanwhile, Judd (1987) suggested 5Ps was suitable for the service sector consisting of the original 4Ps and an additional one P namely people. Mahajan and Golahit (2019) reviewed the established literature and conclude the 11Ps (i.e. product, price, promotion, place, people, physical evidence, process, prominence, position, placement, and productivity) of the marketing mix concept and this concept remained as the topic for debate.

Kotler and Fox (1995) suggested that the educational institutions should be operated in the market orientation approach as the students should be treated as consumers. Regrettably, several educational institutions are embracing marketing by giving lip service to the potential students, producing glib copy in brochures, and poorly applying marketing principles (Ng & Forbes, 2009). When educational institutions plan to attract potential students to enrol and pursue in the institution, there are needs to create an educational experience to satisfy the students' needs and wants even though it is not a simple strategy (Ng & Forbes, 2009). Chawla (2013) suggested the educational institutions require a well-developed marketing strategy and service marketing mix that could help the educational institutions to create customers and generate profit through customer satisfaction. Therefore, marketing mix is the most important strategy in determining the marketing success in educational institutions (Mamta Chawla, 2013).

### *Decision-Making Styles*

Sproles and Kendall (1986) are the pioneer of consumer decision-making style typology, which later on evolved to Consumer Style Inventory (CSI). These scholars introduced a new concept of basic consumer personality and defined consumer decision-making styles as a mental orientation categorising a consumer's approach to making choices. Three (3) ways to categorise the consumer styles based on the suggestions of the consumer literature, are the psychographic/lifestyle approach, the consumer typology approach, and the consumer characteristics approach (Sproles & Kendall, 1986). The consumer characteristics approach is the most powerful approach to consumer studies that focuses on cognitive and affective

orientation, which relates to consumer decision-making. The decision-making style typology was evolved due to the market changes and geography segmentation differences. The pioneer of consumer decision-making style typology proposed 9 dimensions of styles (Sproles & Kendall, 1986) while a study by Cowart and Goldsmith (2007) suggested 6 dimensions of styles, even though both studies were conducted from the US consumers' perspectives. In Asian countries, Mokhlis (2009) postulates 7 dimensions of Malaysian youth consumer decision-making styles, while Tanksale, Neelam, and Venkatachalam (2014) suggested 6 dimensions of Indian youth consumer decision-making styles. However, the previous findings consistently proposed a dominant decision-making style for the targeted market.

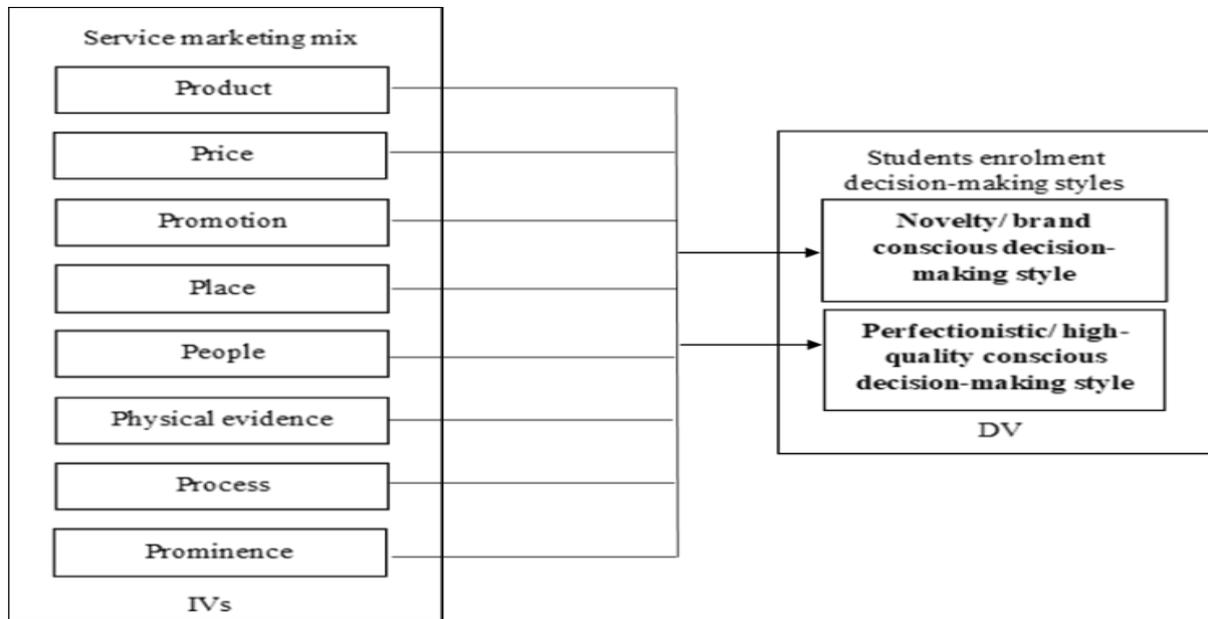
Numerous previous studies adapted consumer decision-making style typology from Sproles and Kendall (1986) to understand the phenomenon such as consumer decision-making styles between male and female (Bakewell & Mitchell, 2006), online apparel shopping (Cowart & Goldsmith, 2007), local retailer loyalty (Khare, 2012), retailing (Lysonski & Durvasula, 2013), young adults (Mokhlis, 2009; Tanksale, Neelam, and Venkatachalam, 2014 and Fan and Xiao, 1998), Chinese consumers style (Siu, Wang, Chang, & Hui, 2001) and mall shopping behaviour (Wesley, Leheew, & Woodside, 2006). However, studies that employed CSI to understand the decision-making process in STEM program selection are scarce.

Mokhlis (2009) indicated seven (7) decision-making styles of Malaysian youth, namely novelty, brand-conscious consumer, perfectionistic, high-quality conscious consumer, confused by over-choice, recreational, hedonistic conscious consumer, impulsive, careless consumer, variety-seeking, and habitual, brand loyal. The study also revealed two dominant decision-making styles of Malaysian youth namely novelty, brand-conscious consumer, and perfectionistic, high-quality conscious consumer. This finding is consistent with other studies in a similar setting such as Indian youths (Tanksale et al., 2014) and Chinese youths (Fan & Xiao, 1998). Therefore, this study focuses on these two dominant dimensions, novelty, brand-conscious consumer, and perfectionistic, high-quality conscious consumer, to understand the program enrollment decision-making styles.

### ***Proposed Model***

The study uses the service marketing mix and consumer decision-making styles model to develop the framework. According to the consumer decision-making model, the marketing mix dimensions play an important role as an input that influences the decision-making process (Schiffman & Wisenblit, 2019). Previous studies found that the marketing mix dimensions have a significant relationship with the decision-making styles such as internet decision-making styles (Sam, Chatwin, & Lei, 2007), green purchase decision-making styles (Azimi & Shabani, 2016), and service marketing mix (Aras, Husain, Jasruddin, Haedar, & Hasnawi, 2017). However, the dearth of established literature on the relationship between service marketing mix and consumer decision-making styles, particularly in the context of program

enrollment decision-making styles, motivates this study to propose the following conceptual framework:



Previous studies found that the product was positively related to the students' choice in the selection of higher education programs (Chawla, 2013; Lapina, Roga, & Muursepp, 2016). These studies are consistent with several researchers that proved the price, promotion, and place significantly influence the students' selection on the education program (Goi, 2009; Soedijati & Pratminingsih, 2011b). Meanwhile, the positive acceptance of social media among the students' community has increased the importance of promotion to the students' decision-making process (Khanna, Jacob, & Yadav, 2014; Rutter, Roper, & Lettice, 2016). The international students were influenced by the location of the university when they made an enrollment decision (Padlee, Kamaruddin, & Baharun, 2010). Thus, this study postulates the following hypotheses:

H1: There is a significant influence of product on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H2: There is a significant influence of price on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H3: There is a significant influence of promotion on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H4: There is a significant influence of place on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

People referred to the academic staff, administrative staff and top management who play important roles in the selection of university and education programs among students (Lau, 2016; Padlee et al., 2010). Quick notification from the university (Clinton, 1989) and efficient enrollment procedure has positively increased the number of students' enrollment (Brassington & Pettitt, 2005). Kotler, Ang, Leong, and Tan (1999) highlighted the importance of the physical environment in service delivery. Previous studies suggested that students require a conducive environment because it influences the productivity or student's performance (Koni, Zainal, & Ibrahim, 2013; Punlee, 2006). The criteria encourage the university to invest in developing a fascinating campus environment and play an important role as a marketing instrument to attract new students (Lau, 2016). Meanwhile, program accreditation including ranking has a positive impact on the students' enrollment (Lafuente-ruiz-de-sabando, Zorrilla, & Forcada, 2017; Lau, 2016). This study proposed the following hypotheses:

H5: There is a significant influence of people on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H6: There is a significant influence of the process on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H7: There is a significant influence of physical evidence on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

H8: There is a significant influence of prominence on the decision-making style dimensions (i.e. novelty, brand-conscious, and perfectionist, high-quality)

## **METHODOLOGY**

This study consisted of undergraduate students from a reputable private university in Malaysia with the highest national rating (i.e. SETARA) (UTP, 2020) and specialising in STEM programs particularly engineering bachelor programs, science bachelor programs, and technology bachelor programs. The rationale of selecting a reputable private university is aligned with the previous study which found that prominence (i.e. university reputation) is a significant factor influencing university service inputs and outputs (Mahajan & Golahit, 2019). Furthermore, a private university is suitable for this study as the university has to compete with both public and private universities to attract prospective students to enroll in the study program offered.

The study was conducted using a survey method among 364 undergraduate students from a private university in Malaysia specialised in the STEM program. Data were collected over a 10 week period, using a closed-ended online questionnaire. Simple random sampling was used to select the sample where 364 undergraduate students were randomly selected and the link of the online questionnaire was emailed through the students' official email. However, only 191

(52.4%) of the total respondents returned the online questionnaire. The usable sample size is sufficient for analysis using the PLS approach, by multiplying by 10 the numbers of the causal arrow pointing to the latent dependent variables (Barclay, Higgins, & Thomposon, 1995; Chin, 1998). Therefore, the minimum sample size for the proposed model was 160 and the usable questionnaire exceeds the number.

The instruments used to measure each of the constructs in the online questionnaire were multi-item scales which have been adopted from previous research. The items for 7Ps (i.e. product, price, promotion, place, people, physical evidence, process) were adapted from Lau (2016), the items for prominence were taken from Mahajan and Golahit (2019) and finally, the items for both decision-making style constructs (i.e. novelty, brand-conscious and perfectionist, high-quality) were adapted from Mokhlis (2009). Prior to the survey, a pilot study was conducted to inspect the reliability and validity of the instruments. The Partial Least Squares Structural Equation Modelling 3.0 (PLS-SEM 3.0) was used to test the hypotheses since the nature of the proposed model is predictive which relatively lacks established literature and the structural model is complex (Hair, Ringle, & Sarstedt, 2011; Ramayah, Cheah, Chuah, Ting, & Memon, 2016) with eight (8) predictors and two (2) latent dependent variables.

## RESULTS

The demographic profile is based on the sample of 191 respondents, among them 50.2% are male and 49.8% are female. The majority of the respondents belong to the engineering bachelor program (61.7%) while 38.3% belong to the science program such as the bachelor of science in applied chemistry (6) and bachelor of science in applied physics (5). The reason researchers focus more on engineering programs is due to statistics that reported the engineering bachelor program was the highest terminated program from both public and private universities in Malaysia (Berita Harian, 2019), although the total respondents consist of students from the science, technology, and mathematics bachelor program. Furthermore, self-financed students (50.8%) are slightly higher than sponsored students (49.2%). The majority of the respondents belong to middle income and high-income families (64.9%) while the remaining belong to lower-income with monthly income less than RM3,000.00.

### *Measurement Modelling*

The purpose of the assessment of the measurement model was to evaluate the reliability and convergent validity of the indicator and discriminant validity of the adapted instruments to ensure that each construct is distinct from others. All constructs in this study were operationalised in the reflective mode. Table 1 presents the summary of the measurement model where three analysis were used to evaluate the reliability and convergent validity of the research instruments.

Firstly, Rho\_A of each construct is evaluated and the results are equal and higher than 0.70, assuring all constructs are reliable as suggested by Dijkstra and Henseler (2015). Secondly, the composite reliability values for all constructs achieved threshold values higher than 0.70 and it indicates higher internal consistency within the construct (Gefen, Straub, & Boudreau, 2000; Hair, Hult, Ringle, & Sarstedt, 2014). Lastly, the Average Variance Extracted (AVE) value is required to achieve the threshold of >0.500 to ensure the constructs fulfill the convergent validity requirement where latent factors are well presented by the observed variables. Based on Table 1, all constructs recorded AVE values higher than 0.500 and indicated that the convergent validity was achieved (Fornell & Larcker, 1981; Hair, Black, Babin, & Anderson, 2010).

**Table 1: Summary of results for the measurement model**

Constructs	Items		Loadin g	Rho_A	CR	AVE
	<b>Threshold</b>			$\geq 0.700$	$\geq 0.700$	$\geq 0.500$
<b>Product</b>	Product1		0.777	0.858	0.880	0.554
	Product2		0.866			
	Product3		0.784			
	Product4		<b>0.581</b>			
	Product5		<b>0.650</b>			
	Product6		0.773			
<b>Price</b>	Price1		0.794	0.884	0.913	0.678
	Price2		0.863			
	Price3		0.824			
	Price4		0.883			
	Price5		0.746			
<b>Promotion</b>	Promotion1		0.812	0.895	0.911	0.535
	Promotion2		<b>0.613</b>			
	Promotion3		0.763			
	Promotion4		0.717			
	Promotion5		0.761			
	Promotion6		<b>0.682</b>			
	Promotion7		0.760			
	Promotion8		<b>0.633</b>			
	Promotion9		0.815			
<b>Place</b>	Place1		0.857	0.700	0.789	0.558
	Place2		<b>0.636</b>			
	Place3		<b>0.732</b>			
<b>People</b>	People1		0.874	0.877	0.909	0.667
	People2		0.823			
	People3		0.877			

<b>Physical Evidence</b>	PhyEvi2		0.826	0.834	0.893	0.736
	PhyEvi3		0.796			
	PhyEvi4		0.880			
	PhyEvi5		0.865			
	PhyEvi6		0.702			
<b>Process</b>	Process1		0.777	0.909	0.915	0.729
	Process2		0.879			
	Process3		0.869			
	Process4		0.886			
<b>Prominence</b>	Prominence1		0.950	0.719	0.749	0.613
	Prominence2		<b>0.569</b>			
<b>Novelty</b>	Novelty1		0.785	0.788	0.847	0.528
	Novelty3		0.736			
	Novelty4		<b>0.560</b>			
	Novelty6		0.767			
	Novelty7		0.761			
<b>Perfectionist</b>	Perfectionistic 1		0.796	0.887	0.913	0.637
	Perfectionistic 2		0.791			
	Perfectionistic 3		0.828			
	Perfectionistic 4		0.779			
	Perfectionistic 5		0.756			
	Perfectionistic 6		0.836			

Results presented in Table 2 indicate the discriminant validity of the constructs. Discriminant validity means the two constructs have testified differences by examining the cross-loading value. Hair et al. (2014) suggested the procedure in evaluating the discriminant validity by ensuring that the outer loading value within the construct is higher than its cross-loading with other constructs. Fornell Larcker criterion suggested the square root of each latent variable is greater than the correlation of other latent variables (Fornell & Larcker, 1981). Therefore, in observation of the Fornell Larcker criterion presented in Table 2, all latent variables satisfy the criterion and indicate the discriminant validity between constructs were fulfilled.

**Table 2: Fornell Larcker criterion**

	NV	Pep	Per	PE	Pla	Pri	Pro	Prod	Prom	Promo
NV	<b>0.727</b>									
Pep	0.330	<b>0.858</b>								
Per	0.488	0.577	<b>0.798</b>							
PE	0.340	0.735	0.531	<b>0.816</b>						
Pla	0.234	0.474	0.390	0.508	<b>0.747</b>					
Pri	0.178	0.648	0.577	0.577	0.519	<b>0.823</b>				
Pro	0.329	0.717	0.525	0.774	0.529	0.701	<b>0.854</b>			
Prod	0.378	0.606	0.687	0.534	0.370	0.561	0.580	<b>0.745</b>		
Prom	0.559	0.368	0.385	0.400	0.405	0.319	0.448	0.358	<b>0.783</b>	
Promo	0.382	0.365	0.304	0.480	0.604	0.399	0.459	0.391	0.512	<b>0.732</b>

Note: NV- Novelty; Pep- People; Per- Perfectionist PE- Physical Evidence; Pla- Place; Pri- Price; Pro- Process; Prod- Product; Prom- Prominence; Promo- Promotion

### *Structural Modelling*

PLS-SEM was used to test the structural relationship between constructs and subsequently test the proposed hypotheses. A four-step procedure was adapted from Ramayah et al. (2016) to assess the structural model which includes assessing collinearity, path coefficient ( $\beta$ ), R square ( $R^2$ ) value, and effect size ( $f^2$ ) of the exogenous latent variables towards endogenous latent variables. Table 3 and Table 4 contains results for these four steps.

The first step is to assess the collinearity among the constructs in the structural model. This study refers to the threshold value of variance inflation factor (VIF) which is  $VIF \leq 5.0$  suggested by Hair et al. (2014) to assess the collinearity. Results showed that the VIF values for all constructs fulfilled the collinearity requirement since the VIF values are in the range of 1.493 (prominence) to 3.588 (process). Therefore, it indicated that the collinearity issue did not exist in the structural model.

**Table 3: Quality Criteria**

Quality Criteria	$R^2$	$f^2$ (Novelty)	$f^2$ (Perfectionist)
Novelty	0.356		
Perfectionist	0.544		
Product		<b>0.038</b>	<b>0.285</b>
Price		<b>0.028</b>	<b>0.053</b>
Promotion		0.015	<b>0.022</b>
Place		0.006	0.005
People		0.008	0.005
Process			0.012
Physical Evidence		0.001	0.019
Prominence		<b>0.218</b>	<b>0.235</b>

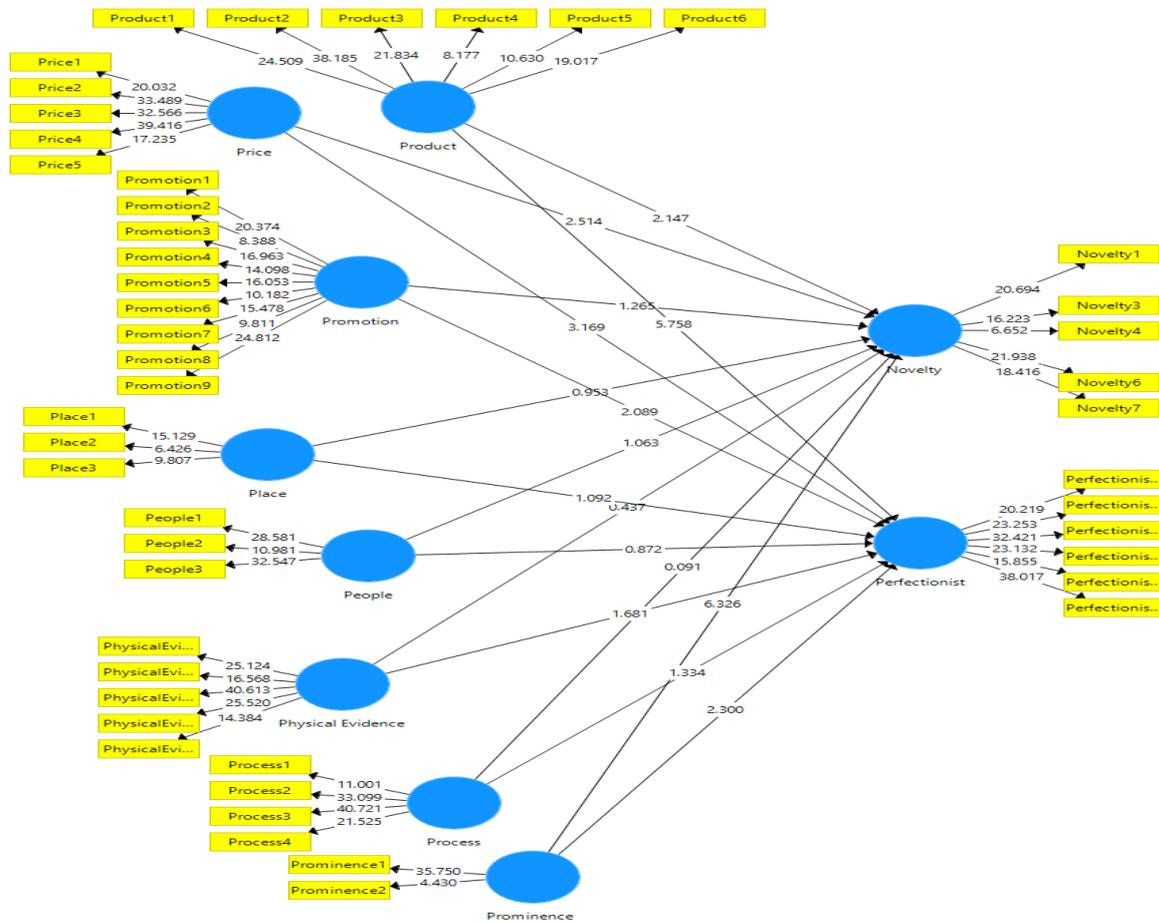
The second step is to observe the path coefficient between the exogenous latent variables and endogenous latent variables to evaluate the hypothesised relationship among constructs. Table 4 showed the highest path coefficient value which belongs to the path of product and perfectionist ( $\beta=0.475$ ) followed by prominence and novelty ( $\beta=0.448$ ) and price and perfectionist ( $\beta=0.233$ ). Meanwhile, the path between place and perfectionist is the weakest value of the path coefficient ( $\beta=0.068$ ). However, this step did not observe the significance value of the path coefficient between the constructs.

The third step is to test the coefficient of determination ( $R^2$ ). This study refers to the suggested value by Chin (1998) and Hair et al. (2014) to evaluate the  $R^2$  values for the dependent variables. Three levels of suggested  $R^2$  are 0.25, 0.50, and 0.75 which are described as weak, moderate, and substantial in the structural model. The  $R^2$  for novelty is 0.356 that falls within the weak level while perfectionist recorded moderate level of coefficient of determination when  $R^2=0.544$ .

Step four concerns the assessment of prediction size between the predictor variables and the dependent variables (Hair et al., 2014; Ramayah et al., 2016). As suggested by Cohen (1988), the effect size was assessed through  $f^2$  value where the minimum effect size to be considered is  $\geq 0.02$ . The threshold means that when  $f^2$  is less than  $\geq 0.02$  it does not affect the dependent variables of the structural model. Results in Table 3 depict that only three predictors were considered to affect the novelty, prominence to novelty show moderate effect size ( $f^2=0.218$ ) and product and price to novelty show weak effect size ( $f^2=0.028$ ,  $f^2=0.038$ ) while four predictors recorded acceptable effect size for the perfectionist with two moderate effect size (product  $f^2=0.285$ , prominence  $f^2=0.235$ ) and the remaining predictors are considered as weak effect size.

The bootstrapping option was used to examine the significant relationship between predictors and dependent variables. This procedure assisted in generating a large number of subsamples to replace the original samples to test the path coefficient for significance. In this study, the sample was increased to 5000 as suggested by the established literature (Chin, 2010; Hair et al., 2014; Wong, 2013). Figure 1 and Table 4 display results from the bootstrapping procedure and they indicate the hypotheses testing results. As suggested by Hair et al. (2014), the threshold for the significance hypothesis are t-values  $\geq 1.64$  and p-value  $< 0.05$ .

**Figure 1: Results from the Structural Model**



The findings in Table 4 showed that 8 hypotheses are significantly supported as their t-value and p-value meet the required threshold while the remaining hypotheses are not supported statistically. It can be seen that product ( $t=2.147$ ,  $p<0.05$ ), price ( $t=2.514$ ,  $p<0.05$ ), prominence ( $t=2.300$ ,  $p<0.05$ ) have a positive relationship with novelty, brand-conscious style. Meanwhile, product ( $t=5.768$ ,  $p<0.05$ ), price ( $t=3.169$ ,  $p<0.05$ ), physical evidence ( $t=1.681$ ,  $p<0.05$ ) and prominence ( $t=2.300$ ,  $p<0.05$ ) significantly influence perfectionist, high-quality style. The results indicate that promotion ( $\beta = -0.137$ ,  $t=2.089$ ,  $p<0.05$ ) has a negative relationship with the perfectionist, high-quality style. This finding showed that if the university increases the elements of promotion, it will reduce the program enrollment decision-making amongst students with the perfectionist, high-quality style. Further discussion will critically discuss the implication of this finding toward the university and indirectly to the higher education institutions specialised in the STEM education program.

**Table 4: Summary of hypothesis testing**

Hypothesis	Original Sample	Mean	SD	t-statistics	p-value	Results
H1a: Product → Novelty	0.206	0.200	0.096	2.147	0.016	Supported
H1b: Product → Perfectionist	0.475	0.469	0.083	5.758	0.000	Supported
H2a: Price → Novelty	-0.203	-0.202	0.081	2.514	0.006	Supported
H2b: Price → Perfectionist	0.233	0.234	0.074	3.169	0.001	Supported
H3a: Promotion → Novelty	0.132	0.134	0.104	1.265	0.103	Not Supported
H3b: Promotion → Perfectionist	-0.137	-0.133	0.066	2.089	0.018	Supported
H4a: Place → Novelty	-0.087	-0.079	0.091	0.953	0.170	Not Supported
H4b: Place → Perfectionist	0.068	0.076	0.062	1.092	0.137	Not Supported
H5a: People → Novelty	0.116	0.112	0.109	1.063	0.144	Not Supported
H5b: People → Perfectionist	0.080	0.079	0.092	0.872	0.192	Not Supported
H6a: Process → Novelty	0.011	0.014	0.126	0.091	0.464	Not Supported
H6b: Process → Perfectionist	-0.137	-0.135	0.102	1.334	0.091	Not Supported
H7a: Physical Evidence → Novelty	0.054	0.062	0.124	0.437	0.331	Not Supported
H7b: Physical Evidence → Perfectionist	0.160	0.162	0.095	1.681	0.046	Supported
H8a: Prominence → Novelty	0.448	0.449	0.071	6.326	0.000	Supported
H8b: Prominence → Perfectionist	0.151	0.150	0.066	2.300	0.011	Supported

## DISCUSSION AND CONCLUSION

This study provides practical contributions by evaluating the role of service marketing mix dimensions on the STEM program enrollment decision making styles. The findings of the research revealed that three dimensions positively influenced both program enrollment decision-making styles. The findings added contribution to the existing literature by confirming that the product (i.e. program) is the most influential factor to the enrollment decision-making (Mamta Chawla, 2013; Tijjang et al., 2017). Surprisingly, results unveiled that promotion is negatively related to the perfectionist, high-quality style of enrollment decision making. This finding may be due to characteristics of the perfectionist, high-quality style that considers tangible benefits when selecting, purchasing or consuming goods and services (Mokhlis, 2009). Furthermore, the finding explained that the characteristics of consumers create different needs



and wants even though the product or service is the same. Therefore, the university or service providers are responsible to understand and identify the characteristics of potential students before putting the marketing strategy into action.

The findings somehow reveal prominence is a significant factor that influences both enrollment decision-making styles among private university students in Malaysia. This finding is consistent with several studies that suggested accreditation and ranking of the institutions play a positive role in increasing students' enrollment (Lafuente-ruiz-de-sabando et al., 2017; Lau, 2016). The accreditation and ranking of the university represent the brand reputation of the institution. Blaga and Blaga (2018) emphasised that brand reputation is an important factor to attract potential students due to the nature of higher education institutions that offered intangible services with standard attributes. Therefore, the prominence represents the quality of the institutions, and it might attract potential students to enroll in the programs offered by the university.

This research fills the gap by identifying the marketing mix dimensions that strongly influence enrollment decision-making for both types of decision-making styles. Hence, this study recommends higher education institutions to position their STEM program with marketable and quality curriculum and learning experience because students consider the product as an important factor in the enrolment decision-making process. Therefore, the university specialised in STEM programs is encouraged to embed the Malaysia higher education framework 4.0 to ensure the programs offer the values that suit potential students' needs and wants (Lawrence et al., 2019). The private university is also required to design quality programs at a competitive price. The price will influence the competitive advantage of the institution and STEM program. Besides, this study proved that the national higher education agenda has been on the right note when the Malaysian government invested in the enhancement of universities' ranking and accreditation in the last five years. Thus, it is crucial to the management of the university to study the results before planning effective strategies to recruit new potential students and increase the marketability of STEM programs indirectly.

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