



## RESEARCH ARTICLE

# REVISED Impact of brand equity and service quality on the reputation of universities and students' intention to choose them: The case of IIUM and UIN [version 3; peer review: 2 approved]

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## Abstract







**Background:** Numerous studies have been carried out on the impacts of brand equity and service quality of higher education institutions (HEIs) on their reputation and students' satisfaction. This research aimed to compare the impact of brand equity and service quality on universities' reputations, namely Universitas Islam Negeri (UIN) in Indonesia and International Islamic University Malaysia (IIUM) in Malaysia, and Indonesian students' intention to choose the universities, which is moderated by study expense (price). UIN and IIUM are HEIs with a similar university concept, and Indonesian students have recently shown a high interest in them. The two universities have faculties not only in the field of Islamic studies but in general fields of studies as well, which are usually held by non-Islamic Universities. Therefore, their competitiveness against non-Islamic universities, especially the University of Indonesia (UI) has increased.



**Methods:** The statistical measurement tool used was structural equation modeling (SEM). The number of items stated in the questionnaire was 45. Therefore, minimum data to be collected were  $5 \times 45$  or 225 which rounded up to 228 from Indonesian students at UIN and IIUM (114 UIN students, and 114 Indonesian student respondents from IIUM).

**Results:** The study results show that the universities' reputations are strongly affected by their brand equity and service quality, which then affect students' intention to choose the universities. Students had a higher intention to choose IIUM than UIN. The limitation of this research is that the effect of study expense on the intention of Indonesian students to study at UIN or IIUM has not yet been conducted. It will be conducted in the next study.

## Open Peer Review

Approval Status 

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**Conclusions:** These results are expected to be useful to UIN, IIUM, and especially Politeknik Negeri Jakarta (PNJ) in determining a strategy to enhance their reputations and the intention of Indonesian students to study there.

**Keywords**

brand equity, price, service quality, students' intention, university's reputation

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**REVISED Amendments from Version 2**

To accommodate the reviewer's correction, we have made some changes to my article. We removed the description about price moderation and consequently changed the figures since it will be done in the next research. Therefore, this research focused only on analyzing the effect of brand equity and service quality on reputation, and its impact on students' intention to choose a university. The codes of indicators of each variable were also changed to English. The title of the article was also changed.

**Any further responses from the reviewers can be found at the end of the article**

**Introduction**

One form of higher education institution (HEI) in Indonesia is Institut Agama Islam Negeri (IAIN), which is an Islamic university that provides academic education in Islamic religious disciplines. The first IAIN was established in Yogyakarta in 1960. In 2002, IAIN Syarif Hidayatullah in Jakarta was changed to a State Islamic University, namely Universitas Islam Negeri (UIN). Many other IAINs were established throughout Indonesia. The UIN format allows universities to open faculties or departments in other fields of study outside of Islamic studies. The impact of these changes is the increase in the number of universities that offer majors in faculties of non-Islamic studies that can be chosen by prospective students. Several faculties or departments that usually only exist in non-Islamic study universities, such as economics, psychology, biology, pharmacy, medicine, electrical engineering, mechanical engineering, and civil engineering are currently also fields of study offered at UIN. Consequently, UIN has become a competitor of non-Islamic study universities as an alternative choice of institution for prospective students to attend. The number of students who are interested in studying at UIN continues to increase, while the number of students who enrolled at the University of Indonesia (UI), the biggest competitor of UIN, has decreased (<https://pddikti.kemdikbud.go.id/perbandingan/perguruan>).

From the numerous studies done in this context, it can be concluded that students' satisfaction or loyalty to a university is influenced by factors such as brand equity, and the service quality of the university. Both of these variables have an impact on a university's reputation (Ali M., and Ahmed M., 2018; Amal S.A., Shurair, and Pokharel S., 2019; Arian M. and Khoshtaria T., 2020). So, reputation is an important factor that determines satisfaction or loyalty (Aidah, Supardi, and Juhji, 2020; Pinar M., Girard T., and Basfirinci C., 2020; Polkinghorne M., Roushan G., and Taylor J., 2017). Much research conducted in this matter with a different research framework. Most of the research analyzed the effect of brand equity and service quality on reputation, and its influence on satisfaction or loyalty as the dependent variables. However, this research was conducted with a new research model, which became the novelty of this research. This research measures the effect of brand equity and service quality on universities' reputations and prospective students' intention to choose them. The researchers could not find this type of research framework. The intention variable was chosen, because the interest of Indonesian students to enroll in the two universities has recently increased. This research covers the gap of lack of research in education industries conducted in this framework which the results are needed for the universities. Every year they need to know prospective students enrolling.

Another factor considered is the study expense (tuition fee + living cost) at the selected universities (McGettigan A., 2013; Palfreyman D., and Tapper T., 2016). Since the birth of UIN, there has been a decrease in the number of prospective students who choose non-Islamic universities. This is because UIN also offers academic courses that were previously only offered at non-Islamic universities. The reputation of UIN is quite good, and its study expense is lower. This is shown by the accreditation of many of UIN's study programs bestowed by The National Accreditation Board (BAN-PT) as grade "A". So, the number of interested students who study at UIN has increased. The role of study expense or price on students' intention to choose a university will be inserted and elaborated in the research model in the next year's research which is also a novelty of this research.

One of the universities with an Islamic concept in neighboring country Malaysia is the International Islamic University Malaysia (IIUM). This university is also a competitor of non-Islamic universities and UIN in Indonesia. The number of Indonesian students who are interested in studying at IIUM is also increasing. In choosing a place to study in Malaysia, prospective Indonesian students also consider the same factors that are applicable in Indonesia, which are moderated by study expenses in that country (Zeithaml A., 1988).

This study aimed to compare the intention of Indonesian students to choose UIN or IIUM as a place to study. The researchers have not been able to find research in Indonesia that examines the impact of a university's reputation based on its brand equity and service quality on students' intention to choose it. Since the interest of Indonesian students to study at competing universities increases, they need to figure out what factors the students consider in choosing a university. That is the urgency of this research. The results of this study are expected to be useful to UIN, and IIUM in formulating policies to determine factors that affect their reputation and students' intentions to choose them. The results will also be

useful to Indonesian universities in making the same policies and strategies. This study is also applicable to Jakarta State Polytechnic (PNJ), which funded this research in formulating strategies to help PNJ gain a better reputation. It will result in a higher number of quality graduates, and ultimately increases the competitiveness of graduates, which is one of the visions of PNJ.

### Literature review

Students are customers (Royo, 2017), in the marketing concept. To study in a university, sometimes they pay a lot of money; expensive tuition fees are usually correlated with the quality of education at the university. For this reason, they deserve all the best services from the university (Mehrtens I., 2016). Nuriah and Rahma (2018) examined the influence of a university's reputation on students' decisions to choose the university. They concluded that the reputation of a university reflects the quality of the university so that it becomes a determinant of students' choices for it. Mourad, Ennew, Kortam (2011), examined the effect of word of mouth (WOM) and a university's reputation on students' decisions to choose a university. They concluded that WOM had no effect on students' decisions in choosing a university, but the university's reputation did. Mwiya, Bwalya, Siachinji, Sikombe, Chanda, and Chawala (2017), conducted research in Zambia on the effect of the quality of higher education services on students' satisfaction and behavioral intentions in the form of positive loyalty and WOM. The results of this study indicate that all dimensions of the quality of educational services have a significant positive effect on students' satisfaction, and ultimately affect their loyalty and willingness to spread positive WOM.

Besides the above objectives, this research was also conducted to support the implementation of PNJ's Strategic Planning of Research (RENSTRA), where the research roadmap for the 2019-2025 period focuses on the market. The market is defined as the collection of actual and potential buyers of a product. While the product is anything that can be offered to the market that can satisfy wants and needs (Kotler P., and Armstrong G., 2014). The market in the context of this research is customers or students studying at the university. This study measured the influence of brand equity and quality of educational services on the reputation of a university, as well as students' intentions to choose a university. Brand equity, service quality, and companies' reputation are intangible market-based assets that affect customers' satisfaction (Almarri and Gardiner, 2014; Walsh and Beatty, 2007). In the context of PNJ as a HEI, this also applies.

From relevant studies that have been carried out, no research has compared the effect of brand equity and service quality on the reputation of the two universities (from Indonesia and Malaysia) with similar concepts and the intentions of Indonesian students to study at either university, which is currently in high demand.

Four constructs will be proposed in two studies, this is Study One, and Study Two will be conducted next year. The constructs are brand equity, service quality, company reputation, and price. Their impact on customers' intentions was analyzed. Brand equity and service quality directly affect a company's reputation. Furthermore, the reputation of a company will have an impact on customers' intentions. The moderation of price or study expense will be measured in the next year's research. These constructs are explained as follows.

### Brand equity

Brand equity is one of the most prized assets of firms and a key concept for marketing academics (Ambler, 2003; Christodoulides and de Chernatony, 2010; Christodoulides, Cadogan J., and Veloutsou V., 2015). Although brand equity has been extensively researched in the context of physical products, less attention has been devoted to understanding the concept in relation to a service sector context (Mourad *et al.*, 2011). Świtała, Gamrot, Reformat, and Reformat (2018) said that numerous definitions explaining the essence of the brand have been provided in the literature over the last twenty years (Kall, 2005; Kapferer, 2008; Keller, 2011; Witek-Hejduk, 2011). Brand equity is defined as a set of assets connected to the brand name and add value to the product/service for customers (Dennis S., Alamanos E., and Bourlakis M., 2016). Arian M. and Tornike Khoshtaria (2020) said that brand equity affects the reputation of a company. This is the initial basis of this research model. Keller K. (2013), Schiffman L.G. and Kanuk L. (2004), defined brand equity as a different response from consumers to a good brand compared to unbranded products when both have the same marketing stimuli and attributes. Meanwhile, Priporas V. and Kamenidou I. (2011), and Yoo, and Donthu (2001) defined brand equity from the customer's perspective as the differential effect of brand knowledge on consumers' response to the marketing of the brand. From these various definitions, the consensual definition is that brand equity increases the value of a product because of its brand name (Khanna M., Jacob I., and Yadav N., 2015). The concept of brand equity is of particular relevance to consumers' choices (Mourad *et al.*, 2011). This statement is also the basis of the research model. The brand equity dimension in this matter is brand awareness which consists of brand recognition, brand recall, and brand image which means strong, favorable, and unique associations of the brand in the customer's memory (Keller, 2013). Pinar M., Trapp P., Girard T., and Boyt T. (2013), Pinar M., Trapp P., Girard T., and Boyt T. (2011), Walsh and Beatty, R. Sharon (2007) explained that there are four brand dimensions, namely brand loyalty, brand awareness, perceived quality, and brand associations (Sapna and Sheetal, 2016). This study aimed to measure the impact of brand equity on the

reputation of the university (Lomer S., Papatsiba V., and Naidoo R., 2018; Chapelo C., 2015). Hypothesis 1 is proposed that brand equity affects the reputation of the universities.

### Service quality

Service quality is the totality of the characteristics of goods and services that show their ability to satisfy customers' needs, both obvious and hidden. For companies engaged in the service sector, providing quality services to customers is an absolute requirement if they want to achieve success (Kotler P. and Armstrong G., 2014). Another definition of service quality is the effort to fulfill the needs and desires of consumers and the accuracy of their delivery in balancing consumers' expectations. In this study, the quality of educational services affected the reputation of the universities (Gronroos C., Kamalanabhan T.J., and Seebaluck A.K., 2019; Polkinghorne M., Roushan G., and Taylor J., 2017). This is another basis theory of the research model. So, Hypothesis 2 is service quality affects the reputation of the universities. Dimensions of service quality are reliability, responsiveness, assurance, empathy, and tangibility (Zeithaml A.V., Bitner J.M., and Gremler D.D., 2013). So far, the research model has been made up that brand equity and service quality affect the reputation of the universities.

### Corporate reputation

A company's reputation is defined as a collective representation that shows the company's position internally to its employees, and externally to its stakeholders (Arian M. and Tornike Khoshtaria, 2020). Another definition of corporate reputation is knowledge of a company's actions and the results of the crystallization of the company's ability to deliver valuable outcomes to its stakeholders (Nuriah and Rahma, 2018). Corporate reputation is customers' overall evaluation of a company based on their reactions to products, services, communication activities, and interaction with the company's representations and/or known activities (Walsh and Beatty, 2007). Corporate reputation dimensions in this context include customers' orientation, being a good employer, being a reliable and financially strong company, product and service quality, and social and environmental responsibility (Walsh and Beatty, 2007). A company's reputation is a critical construct interpreted as the stakeholder's perception of the company as a whole (Walsh and Wiedmann, 2004). The research model is based on this theory. Reputation is the reason or antecedent of their choice (Hypothesis 3).

### Price

Price is the amount of value that customers exchange for having or benefiting from having or using a product or service (Kotler and Armstrong, 2014; Zeithaml A., 1988; Palfreyman D., and Tapper T., 2016). Dimensions of price are affordability, price competition, compatibility of price and quality of product, and compatibility of price and benefit of product (Kotler and Armstrong, 2014). In the context of studying at a university, price means study expense which consists of tuition fees and living costs incurred. Price will mediate or moderate the influence of a company's reputation and students' intention to choose a university (McGettigan A., 2013).

### Customers' intention

Intention or interest is a high inclination of one's heart toward something; excitement, or desire. Buying interest is the stage of a customer's tendency to act before the buying decision is actually implemented (Chong Y.S. and Ahmed P.K., 2015; Constantinides and Stagno, 2012). According to Ali M., and Ahmed M. (2018) and Amal S.A., Shurair and Pokharel S. (2019), the intention is a consumer's interest in a product by seeking additional information. Consumers' buying interest entails a consumer having a desire to buy or choose a product, based on experience in choosing, using, consuming, or even wanting a product. Satisfaction in buying goods or services strengthens interest in buying. Dissatisfaction usually eliminates interest. Customer satisfaction has been seen to produce four outcomes for shareholders, in this case, the university is concerned (Arian M. and Tornike Khoshtaria, 2020): 1. Satisfied customers will be encouraged to buy more from the company. 2. Satisfied customers will buy various products from the company. In the context of a university, satisfied students will be interested in continuing their studies at the same university. 3. Recommendations and positive WOM can also be carried out by satisfied customers, which will increase the value of the university. Dimensions of customers' intention are transactional intention, referral intention, preferential intention, and explorative intention (Schiffman and Kanuk, 2004). Satisfied students will recommend the university where they studied to their relatives or other people. 4. Customers who are increasingly satisfied will provide opportunities for a company to increase prices, thereby increasing the value of the company. Satisfied students will provide opportunities for universities to increase their tuition fees, making it more profitable for the universities. Harahap, Hurriyati, Gaffar and Amanah (2018) said that the reputation of a university strongly affects the intention to choose the university. This is also the basis of the research model.

## Methods

### Ethical considerations

The study samples were Indonesian students attending two well-known universities namely Universitas Islam Negeri (UIN) Syarif Hidayatullah in Jakarta, an education provider using both Islamic and non-Islamic concepts, and

Indonesian students studying at International Islamic University Malaysia (IIUM) in Malaysia. The population of the research was Indonesian students at the two universities. Due to the lack of an Institutional Review Board at the researchers' institution, no formal ethical approval could be obtained for this research. However, this research is considered low-risk due to the scope of the survey and nature of data collected, i.e. factors affecting Indonesian students' choice of university in Indonesia. The Director of Politeknik Negeri Jakarta (PNJ) approved the research beforehand and informed the respondents that responses would be kept anonymous and published only to support this study, and written informed consent was obtained from participants.

### Sample population

This research was planned to last for two years. Measuring the effect of brand equity and service quality of the universities on their reputation and the intention of Indonesian students to choose the universities was carried out in the first year. Furthermore, the moderation of study expenses on the influence of the universities' reputation and students' intention to choose the universities was measured in the second year. Therefore, it is not shown in the research model, nevertheless, its mediation has been calculated and has not been analyzed in this research. The framework of this research is shown below (Figure 1).

The study subjects were Indonesian students studying at two well-known universities, namely UIN Syarif Hidayatullah in Jakarta, and Indonesian students studying at IIUM. The population of the research was Indonesian students at the two universities. Non-probability sampling with convenience method was used to select the respondents as indicated in the questionnaire. They are Indonesian students at graduate and postgraduate levels at the two universities and were chosen as respondents of this research to know the factors that affected them in choosing the universities. The statistical measurement tool used is Structural Equation Modeling (SEM) with LISREL 8.8, which states that the number of respondents should be collected is at least  $5 \times$  the number of items in the questionnaire. The number of statement items stated in the questionnaire was 45. Therefore, data were collected from  $5 \times 45$  or 225 which rounded up to 228 Indonesian students at UIN and IIUM in order to make it easy to divide into 4 research assistants. 2 PNJ students worked as research assistants and collected the data from 114 UIN students, by Google Form and the other 2 did it from 114 Indonesian student respondents from IIUM. The questionnaire was compiled from the dimensions of each construct and then derived into various indicators.

### Results

A two-step approach was used in analyzing the research model (Anderson and Gerbing, 1988). In the first step, the analysis was done on the measurement model. This was done to check whether the measurement model has good validity and reliability in the sample data used. The second step entails adding a structural path based on the hypotheses of the measurement model to produce the hybrid model. The model and structural relations proposed in the hypotheses were analyzed and evaluated. The measurement model has 4 latent variables namely brand equity, service quality, higher education reputation, and customers'/students' intention to study at the universities.

The validity of the measurement model was seen from the standardized loading factor from each indicator of variables by checking its significance with its latent variables. The standardized loading factor used was  $\geq 0.5$  (Igbaria, Zinatelli, Cragg and Cavaye, 1997). Reliability was measured in average variance extracted (AVE), and composite reliability (CR). The reliability of a good measurement model is  $CR \geq 0.70$  and  $AVE \geq 0.50$ . CR and AVE were taken from standardized loading factors and error variances (Wijanto, 2008).

The results of the validity test show that the answers of the UIN and IIUM respondents to all the statement items have a validity coefficient greater than r-critical 0.3. The answers to these items are feasible or valid. Reliability testing is carried out on the statement items that are included in the valid category. This result indicates that the statement items are reliable, as shown by standardized loading factors in Table 1 below. All the indicators of the variables have a *standardized loading factor* value  $> 0.5$ . All measured variables have good validity and reliability values with  $AVE > 0.5$  and  $CR > 0.7$ . The Measurement model and Structural model of UIN can be seen in Figures 2 and 3, while, the Measurement model and Structural model of IIUM can be seen in Figures 4 and 5.

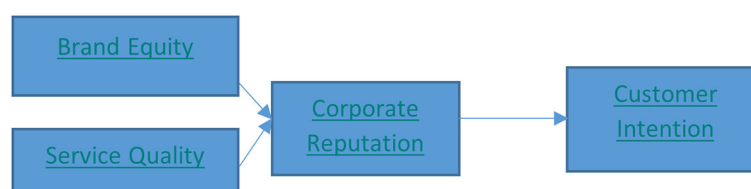
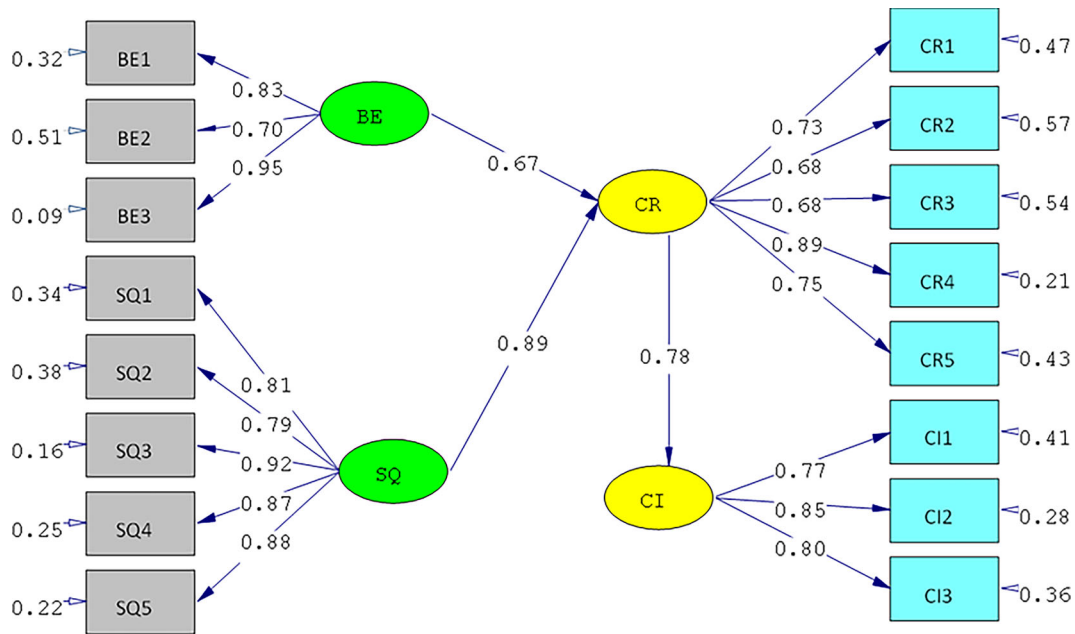


Figure 1. Research framework.

**Table 1. Validity and reliability of data from Universitas Islam Negeri (UIN) and International Islamic University Malaysia (IIUM).**

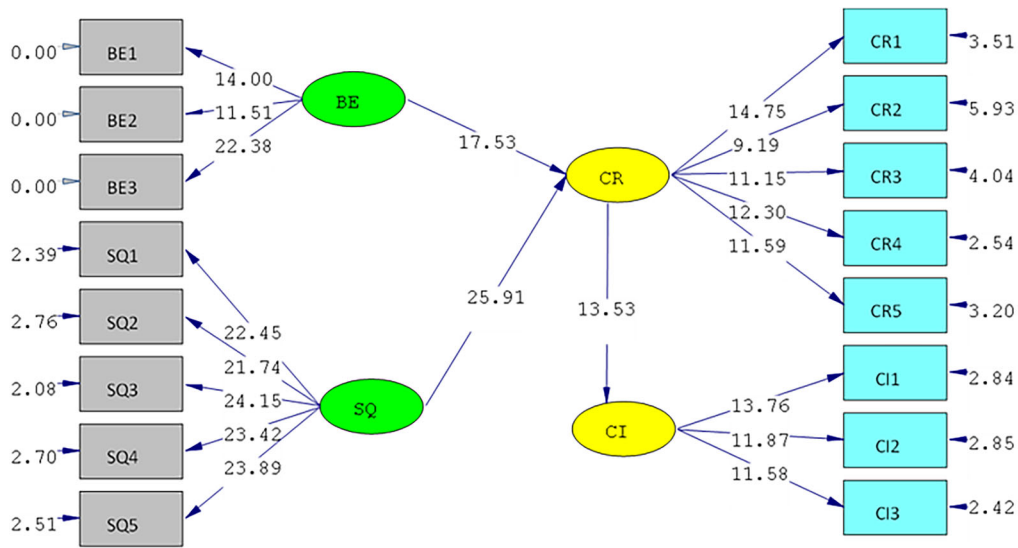
Indicator	UIN					IIUM				
	SLF	ei	T-stats	CR	VE	SLF	ei	T-stats	CR	VE
BE1	0.71	0.49	10.88	0.8250	0.5902	0.65	0.58	4.33	0.8357	0.5102
BE2	0.67	0.55	9.34			0.69	0.55	4.78		
BE3	0.60	0.64	7.72			0.56	0.68	3.70		
BE4	0.61	0.62	10.83			0.74	0.45	13.02		
BE5	0.87	0.24	13.84			0.89	0.21	12.36		
SQ1	0.86	0.27	23.21	0.9455	0.7767	0.82	0.32	18.09	0.9298	0.7263
SQ2	0.89	0.21	23.62			0.83	0.31	18.08		
SQ3	0.93	0.13	24.45			0.90	0.20	19.30		
SQ4	0.83	0.32	22.60			0.82	0.32	18.52		
SQ5	0.90	0.19	24.03			0.89	0.22	15.29		
CR1	0.84	0.30	18.59	0.8841	0.6607	0.82	0.33	6.97	0.8829	0.6553
CR2	0.63	0.51	12.34			0.86	0.35	9.29		
CR3	0.92	0.16	14.74			0.89	0.21	8.33		
CR4	0.71	0.29	13.36			0.69	0.52	15.29		
CI1	1 0.84	0.30	10.98	0.8075	0.5854	0.79	0.38	10.05	0.7510	0.5033
CI2	0.66	0.57	11.44			0.64	0.59	9.19		
CI3	0.79	0.38	12.70			0.69	0.52	9.71		

Remark: BE (Brand Equity), SQ (Service Quality), CR (Corporate Reputation), CI (Customer Intention).



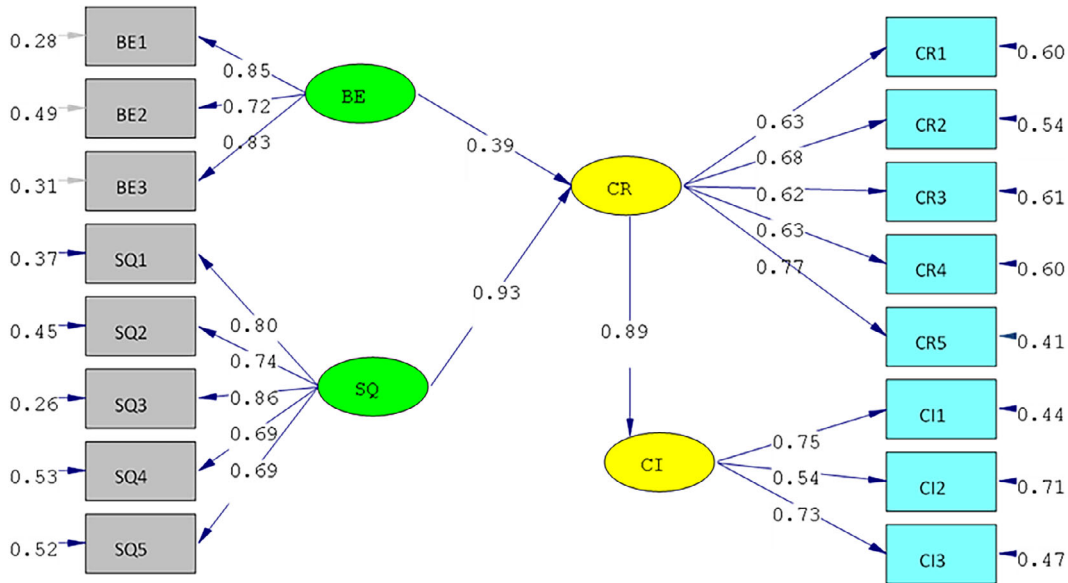
Chi-Square=116.04, df=93, P-value=0.05314, RMSEA=0.044

**Figure 2. Measurement Model of UIN.**



Chi-Square=116.04, df=93, P-value=0.05314, RMSEA=0.044

**Figure 3. Structural model of Universitas Islam Negeri (UIN).** Remark: BE (Brand Equity), SQ (Service Quality), CR (Corporate Reputation), CI (Customer Intention).

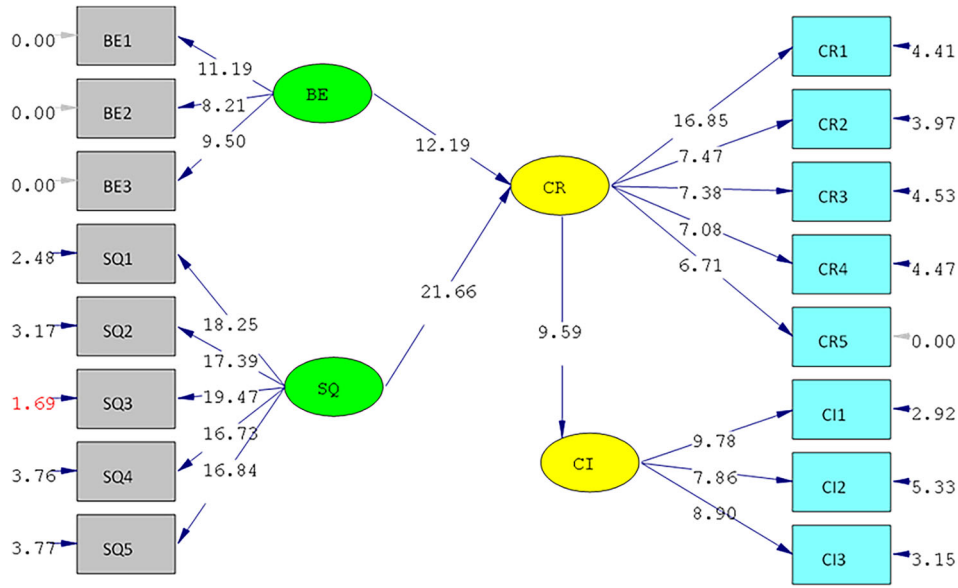


Chi-Square=104.99, df=75, P-value=0.06759, RMSEA=0.0335

**Figure 4. Measurement model of International Islamic University Malaysia (IIUM).**

Hypotheses test results done in UIN can be seen in Table 2 below. All of the hypotheses are supported. Brand equity and service quality affect the reputation positively and significantly. Likewise, reputation affects students' intention to choose the university. These findings prove that brand equity and service quality of the universities affect its reputation. It means that the two variables are factors that affect the reputation. In turn, reputation influences the students' intention to enroll in the university.





Chi-Square=104.99, df=75, P-value=0.06759, RMSEA=0.0335

**Figure 5. Structural model of International Islamic University Malaysia (IIUM).** Remark: BE (Brand Equity), SQ (Service Quality), CR (Corporate Reputation), CI (Customer Intention).

**Table 2. Hypothesis test of Universitas Islam Negeri (UIN).**

Hypothesis	SLF	T-statistic	Result
H1 BE → CR	0.67	17.53	Positive significant
H2 SQ → CR	0.89	25.91	Positive significant
H3 CR → CI	0.78	13.53	Positive significant

Remark: BE (Brand Equity), SQ (Service Quality), CR (Corporate Reputation), CI (Customer Intention).

Table 3 shows the Goodness of fit on UIN. All of the goodness of fit test results are in good fit. It means that all of the test results are over the standard.

The hypotheses test result of IIUM can be seen in Table 4 below. All the hypotheses are also supported positively and significantly, as well as UIN’s. It means that the same condition applies at IIUM. The elaboration of these results is shown in the discussion below.

**Table 3. The goodness of fit of Universitas Islam Negeri (UIN).**

Goodness-of-fit	Cut-off-Value	Result	Remark
RMR (Root mean square residual)	≤0.05 to ≤0.1	0.038	Good fit
RMSEA (Root mean square error of approximation)	≤0.08	0.044	Good fit
GFI (Goodness of fit)	≥0.90	0.99	Good fit
AGFI (Adjusted goodness of fit index)	≥0.90	0.98	Good fit
CFI (Comparative fit index)	≥0.90	0.98	Good fit
Normed Fit Index (NFI)	≥0.90	0.99	Good fit
Non-Normed Fit Index (NNFI)	≥0.90	0.99	Good fit
Incremental Fit Index (IFI)	≥0.90	0.99	Good fit
Relative Fit Index (RFI)	≥0.90	0.98	Good fit

Source: Statistic result.

**Table 4. Hypothesis test of International Islamic University Malaysia (IIUM).**

Hypothesis		SLF	T- statistic	Result
H1	BE → CR	0.39	12.19	Positive and significant
H2	SQ → CR	0.93	21.66	Positive and significant
H3	CR → CI	0.89	9.59	Positive and significant

Remark: BE (Brand Equity), SQ (Service Quality), CR (Corporate Reputation), CI (Customer Intention).

The goodness of fit of IIUM is shown in Table 5 below. All of the goodness of fit test results are in good fit which is indicated by all of the test results being above the standard.

**Table 5. Goodness of fit of IIUM.**

Goodness-of-fit	Cut-off-value	Result	Remark
RMR (Root mean square residual)	≤0.05 to ≤0.1	0.026	Good fit
RMSEA (Root mean square error of approximation)	≤0.08	0.0335	Good fit
GFI (Goodness of fit)	≥0.90	0.98	Good fit
AGFI (Adjusted Goodness of Fit Index)	≥0.90	0.97	Good fit
CFI (Comparative Fit Index)	≥0.90	0.97	Good fit
Normed Fit Index (NFI)	≥0.90	0.96	Good fit
Non-Normed Fit Index (NNFI)	≥0.90	0.98	Good fit
Incremental Fit Index (IFI)	≥0.90	0.97	Good fit
Relative Fit Index (RFI)	≥0.90	0.96	Good fit

Source: Statistic result.

**Discussion**

**Effect of brand equity on the reputation of UIN and IIUM**

Based on the statistical results, the brand equity of a university affects its reputation positively and significantly. It is relevant to the research done by [Arian M. and Tornike K. \(2020\)](#). The item with the highest score that influenced the reputation of the two studied universities was the students’ recognition of their superiority. It indicates that the reputations of the universities are made up by the recognition of their superiority. An institution’s superiority is the most important dimension of brand equity. The item with the lowest score was the students’ immediate recognition of the logo of the universities. Recognition of a logo is another dimension of brand equity. The influence logo of the university on reputation was only small. However, the effect of all item scores of brand equity on the universities’ reputations was positive and significant. Indonesian students recognized and knew them well, so, that UIN and IIUM are currently in high demand. The results show that the universities’ brand equity affects their reputation as stated by [Ambler \(2003\)](#); [Christodoulides and de Chernatony \(2010\)](#); [Christodoulides et al. \(2015\)](#). The influence of brand equity on the reputation of IIUM was stronger than that of UIN. It shows that Indonesian students value the reputation of the two competing universities highly, however, IIUM has it higher since it has better brand equity.

**Effect of service quality on the reputation of UIN and IIUM**

The findings showed that service quality affects the universities’ reputation positively and significantly as suggested by [Gronroos C. et al. \(2019\)](#); [Polkinghorne M. et al. \(2017\)](#). Out of 19 question items posed to the respondents, the item with the highest score that influenced positively and significantly the reputation of UIN was the students’ belief that the university would meet their needs. It indicates that the highest score at UIN is in the reliability dimension, while for IIUM, the highest score was in the responsiveness dimension, *i.e.* its immediate response in serving the students. Usually, the reliability dimension is the most important dimension in a service firm such as a university as stated by [Zeithaml A.V. et al. \(2013\)](#). Those who are studying at UIN, found that the service quality of this institution is the factor that makes a good reputation because they believe that UIN will meet their needs. While for those who are studying at IIUM, the reputation was considered good due to the fact that IIUM’ responsiveness in serving the students. The item with the lowest score which influenced the reputation of UIN was its consistency in providing the timetable of its academic activities. While for IIUM, it was the neat appearance of its employees. Timetable and appearance of the universities’ employees are tangible dimensions of service quality. These items’ scores were low because the students did not consider academic timetable information and appearance as the main factors needed to build a university’s reputation. However,

answers to all the questionnaire items were positive and significant. Service quality had more effect on UIN than IIUM. It could be because the students believed that UIN could meet their needs. While at IIUM, although the responsiveness of the university was higher, the students did not consider service quality to be the most important thing.

### Effect of the universities' reputation on students' intention to choose the universities

The influence of service quality on reputation was stronger than that of brand equity. The universities' reputations affected students' intention to choose them positively and significantly, as founded by Harahap *et al.* (2018). The item with the highest score in this matter was the students who wanted to search for more positive information about the universities. The students intended to choose IIUM more than UIN. This could be a result of IIUM having a greater reputation than UIN, as seen in the results of the statistical tests. Therefore, it proves that the higher the reputation, the stronger the intention to choose a university. A good reputation is affected by the brand equity and service quality of the university.

### Conclusions

This is the first research that compares Indonesian students' intention to choose a university with the same concept in Indonesia and Malaysia. UIN and IIUM are Islamic universities that offer Islamic and non-Islamic fields of studies/subjects that were formerly only offered by non-Islamic universities in Indonesia. The demand for Indonesian students for the two universities is currently increasing. Therefore, they become competitors for non-Islamic universities. Based on this matter the two universities, and generally higher education industries in Indonesia need to find out what has to be done to increase prospective students to enroll in their universities. The study results show that the brand equity and service quality of a university affect its reputation. In turn, reputation affects students' intention to choose a university. The higher the reputation of a university, the stronger the students' intention to choose it. This is the first research conducted in this area to the best of the researchers' knowledge. Hence, the implication of this research is that it might help universities in Indonesia to enhance their brand equity and service quality to gain a higher reputation since reputation is an important factor that influences students' intention to choose a university. This will cause more students to enroll in the universities. The findings also provide a reference for UIN and IIUM, and especially PNJ, and generally universities in Indonesia, in making strategies to increase their reputations and students' intention to choose them. Limitations and other variables should be addressed in next year's research.

Besides the influence of price moderation on the effect of reputation on students' intention to choose the universities, which will be done in next year's research, exploring other variables such as the influence of national culture would be interesting in future research.

### Data availability

#### Underlying data

Figshare: Raw Data result of the survey, <https://doi.org/10.6084/m9.figshare.19826404> (Rozza, 2022a)

This project contains the following underlying data:

- Raw data for F1000 update.csv

#### Extended data

Figshare: Questionnaire Research, <https://doi.org/10.6084/m9.figshare.20506776> (Rozza, 2022b)

Data are available under the terms of the [Creative Commons Zero "No rights reserved" data waiver](#) (CC0 1.0 Public domain dedication).

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# Open Peer Review

Current Peer Review Status:  

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Version 2

Reviewer Report 15 September 2023

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**Mochammad Riyadh Rizky Adam** 

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Esteemed authors and researchers,

I would want to express my gratitude for extending another invitation to me to evaluate the revised manuscript. I can observe a significant amount of progress that facilitates the readers' comprehension.

There are two suggestions that I would like to propose.

(1) Firstly, it is recommended to exclude the sentence "...which is moderated by study expense (price)" from the abstract, as this aspect will be examined and further elaborated in the forthcoming study conducted next year.

(2) Since the authors/researchers have the raw data, I suggest to re-run the SEM analysis again without 'Study Expense (Price)' as the moderating variable. Keep it in the next year's study to keep the surprise or new thing of the study beside it is not common either. Do not show/display in this current study (including the hypothesis development part).

Apart from the above, I have no further comments to give.

Thank you.

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Marketing, branding, social marketing, green marketing, sustainable marketing, cause-related marketing, digital marketing, social media marketing.

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.**

Reviewer Report 30 August 2023

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**Yuen-Onn Choong** 

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Thank you for giving me an opportunity to review the revised version of the manuscript. I am happy to see the paper which with lot of improvement by considering the comments given in the previous review. Thus, I have no further comments.

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Educational management, leadership, behavioural studies

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.**

Author Response 31 Aug 2023

**Dr. Sylvia Rozza SE MM Rizard**

Thank you very much Mr. Juen-Onn Choong for the approval of the new version of my article. I hope this will accelerate the indexing process.

Regards,  
Sylvie

**Competing Interests:** No competing interests were disclosed.

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Version 1

Reviewer Report 25 July 2023

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Thank you for inviting me to review the research paper, titled "Impact of brand equity and service quality on the reputation of universities and students' intention to choose them: The case of IIUM and UIN". Here are some concerns that need more work:

**Several issues with the abstract section:**

- The novelties that the paper brought are not visible to the readers.
- After the author said "Numerous studies have been carried out on the impacts of brand equity and service quality of higher education institutions (HEIs) on their reputation and students' satisfaction.....", it would be best and clear if the authors show the gap between existing literature and the things/situation that happening in the higher education industries.
- Many misunderstandings. The abstract makes the claim that the study expense (price) acts as a moderator, yet this is at odds with the research framework presented on page 6. In the SEM measurement model illustrations, however (pages 7-9), the price variable clearly plays the role of a mediator (rather than a moderator). In addition to these, it is stated that the limitation of the study is the effect of study expense on the intention to study has not been conducted. However, we can see that the study examined the relationship between the study expense and the intention to study for both universities.
- Key information in the research methodology were not displayed well. Several other missing important information: research type, sampling method, data method of obtaining

data.

### **Several issues with the introduction section:**

The structure of the writing should be improved more to give good flow of the understanding so that the readers will understand what happens in Indonesia and Malaysia, why such investigation (comparing Indonesia and Malaysia) is crucial to be done (Can't the authors find the answers of the research questions from the existing empirical research papers?). It is also important to provide solid reason why brand equity, service quality, reputation, and study expense (price) are important factors that happens in the higher education especially in the discussion of intention to study in the Islamic-based and Non-Islamic-based universities. Several details comments as follow:

- It's important to differentiate between universities founded on Islamic principles and those that weren't from the outset, thus distinct terms should be used to describe each. The authors may differentiate between Islamic universities and non-Islamic universities to avoid confusion. As the example, the authors wrote with this statements: "The UIN format allows universities to open faculties or departments in other fields of study outside of Islamic studies. The impact of these changes is the increase in the number of universities that offer majors in faculties of non-Islamic studies that can be chosen by prospective students."

I think it would be clear if stated with this way "The UIN format allows Islamic-based universities to open faculties or departments in other fields of study outside of Islamic studies. The impact of these changes is the increase in the number of Islamic-based universities that offer majors in faculties of non-Islamic studies that can be chosen by prospective students."

- Precise justification needed to support the thought that "The number of students who are interested in studying at UIN continues to increase, while the number of students who enrolled at the University of Indonesia (UI), the biggest competitor of UIN, has decreased". It would be difficult for the readers who are interested to explore further the justification (by clicking the provided link) as the link is kind of a do-it-yourself-find-yourself page.
- If the authors claim no similar research framework already exists in the literature, the authors should provide stronger and clear explanations and evidences for the claim. From the paper, it is clear to the readers that research into the relationship between brand equity-service quality and reputation has been conducted.
- The above comment leads to this concern: the research gap should be explained well. So that the readers will understand the existing literature lack of. The readers will also identify the novelty(ies) easily.
- "The researchers have not been able to find research in Indonesia that examines the impact of a university's reputation based on its brand equity and service quality on students' intention to choose it".- How about from other countries research papers? From other context/industry?

### **Several issues with the literature section:**

- Is there a theory that underpins the entire research model? If so, the readers would want to know about it in the literature section.



- There is no explanation about the research framework. Please explain and elaborate it clearly in the literature section
- The proposed hypotheses should have been explained with strong justifications (from existing empirical research papers and/or qualitative research if any/conducted). Please provide the explanation and justification how the proposed hypotheses were developed.
- If the measurement model displays study expense (price) as the mediating variable, does study expense (price) have a positive or negative effect on the intention to study? The answer will affect how the raw data of study expense (price) will be processed (converted to the opposite scale code or not).

**Several issues with the methodology section:**

- The methodology part should be re-written in order to give good understanding how the authors conducted the study.
- Minimum information to be provided: research type, targeted population, data collection method, sampling method, sampling size (the round up does not make sense), research instruments/questionnaire explanation (screening question, questionnaire structure, measurement items and scales), back translation technique used or not, data analysis techniques including with the software used (did the authors do any test before the SEM such as multivariate assumption test?).
- Since it will be biased if we ask about the intention to choose/to buy/to purchase to someone who has chosen/enrolled/purchased already, the authors should explain why they distributed the questionnaire to respondents who have become students already (for both UIN and IIUM). There should be an explanation (in the literature section) with strong justifications that the intention to choose/to buy/to purchase is the same as the intention to re-choose/to re-buy/to re-purchase.
- If the intention to choose/to buy/to purchase is the same as the intention to re-choose/to re-buy/to re-purchase, the authors need to put the context how the respondents who have become the students asked about the intention to choose. Show the measurement items of the intention to choose would be great for the readers.
- Were the questionnaire questions written in a retrospective question/statement manner, given that the respondents asked were the ones who have been students already? If this approach was taken, the authors must give the reason why this method was taken, given that the dependent variable was intention, not purchase decision.
- It's good also if the methodology section can be explained in a table, displaying the whole process/stages done or conducted by the authors.
- It would be helpful if the authors detailed the procedures used on the pretest sample (taken before the final/big sample was collected, if any).
- It would be helpful if the authors mentioned the software used in running the SEM analysis.

**Several issues with the results section:**

- It would have been helpful to see profiles of the respondents in terms of the demographics.

- The results part can be re-structured in order to give good flow and capture the whole process done. This does not mean the authors have to explain in detail, but the authors could tell what process that has been done with the key results only (these can be displayed in a/several tables) to inform the readers that the data have actually through multiple examinations before jumping to the SEM or hypotheses testing results.
- Since there are H3 (Reputation to Price) and H5 (Price to Intention), the role Price needs to be clear whether as mediating variable or moderating variable between a relationship (is it between reputation to intention? This answer will affect the results and discussion.

**Several issues with the conclusion section:**

- It would be great for the readers to know the implications of the study. Is there any implications for the industry, for the companies (what recommendations the authors suggest to do according to the results) or for the theory development.
- Is there any recommendations or path that can be taken for further research?

**Several issues with the references:**

- If the literature review was revised, it would include more sources.
- Use the recent references.

**Is the work clearly and accurately presented and does it cite the current literature?**

Partly

**Is the study design appropriate and is the work technically sound?**

Partly

**Are sufficient details of methods and analysis provided to allow replication by others?**

Partly

**If applicable, is the statistical analysis and its interpretation appropriate?**

Yes

**Are all the source data underlying the results available to ensure full reproducibility?**

Partly

**Are the conclusions drawn adequately supported by the results?**

Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** marketing, branding, social marketing, green marketing, sustainable marketing, cause-related marketing, digital marketing, social media marketing.

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have**

**significant reservations, as outlined above.**

Reviewer Report 09 June 2023

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Thank you for allowing me to review the paper entitled " Impact of brand equity and service quality on the reputation of universities and students' intention to choose them: The case of IIUM and UIN" Here are some suggestions to improve the paper:

1. Originality: Does the paper contain new and significant information adequate to justify publication?

1. The current version of the abstract is not well written. There is some important detail of the study is not mentioned in the abstract. First of all, it should start from the main aim of the study and tell a little bit about the novelty of this study. This followed by the research method such as sample size, method/technique used to test the hypotheses and model. Then end with the key findings and implications of the study. What's new to this study?

2. I have noticed that the introduction lacks a well-structured and cohesive argument regarding the inclusion of brand equity and service quality in this study and its relationship to reputation and satisfaction. The authors have not clearly articulated why this concept is being investigated and what significance it holds. It is important for them to provide a clear picture and rationale behind the study of reputation and satisfaction. Furthermore, it would be beneficial for the authors to address any potential shortcomings or limitations associated with the concept of the study in order to strengthen their argument.

3. Authors have highlighted several past studies. Authors also claimed that there are many studies examined all these variables. Thus, authors fail to explain how and what these studies lack of. By doing so, they can establish a foundation and context for their own research. Subsequently, the authors can explain the gaps or limitations that exist in the previous studies, providing insights into how their own study differs and addresses those gaps. This approach will help the authors identify the novelty and unique contribution of their research. Is the comparison between two universities is one of the issues? Is this worth to know the differences?

4. In addition, it is important for the authors to emphasize the urgency of their study and clearly articulate how it relates to the key concepts. They should outline the significance and

potential implications of their research, highlighting why it is important to explore all these key concepts within the context of the study. By clearly expressing the relevance and timeliness of their work, the authors can engage readers and establish a compelling rationale for conducting the research.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?
  1. Should have a standalone section for underpinning theory to explain how the path relationships work.
  2. Hypotheses should be proposed in the literature review. Should also talk about the interrelationship between the variables.
  3. The propose conceptual framework should be presented in the literature review section.
3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?
  1. The methodology section needs substantial improvement. To enhance clarity and understanding, it is recommended to divide the section into two subsections: (1) research procedure and sample, and (2) research instruments. This division will provide a clear structure and allow readers to easily navigate the methodology section.
  2. To improve the paper, it is important to clearly define the context of the study and provide strong justifications for the chosen target respondents. Provide a concise and clear explanation of the context in which the study is conducted.
  3. Any translation conducted for the adopted instrument? What translation method used?
  4. Discuss the generalizability and representativeness of the sample in relation to the target population. Clearly explain how the chosen sample is intended to be representative and reflect the larger population. Highlight any strategies employed to ensure a diverse and inclusive sample.
  5. It is important to clearly explain the sampling technique used in the study, along with the rationale for its selection. Additionally, the authors should describe how they used this sampling technique to select respondents for the survey, ensuring generalizability and representativeness towards the targeted population.
  6. What do you mean round up to 228? I though round up mean you should round up to 230 or 250.
  7. What software used in this study? Provide adequate justification.
  8. The procedure of data collection is too limited. More information should be provided on how the authors collected the data, approached the respondents, and identified them to participate in the survey. The explanation should be logical and reasonable, without exaggeration.

9. Including control variables in the study is indeed a good practice as they can help account for potential confounding factors that may influence the results. To improve the paper, it is important to include control variables and provide reasonable justifications for their inclusion.
4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?
  1. Demographic profile or characteristic of sample is very limited. Should report more.
  2. The abundance of study results presented has made it challenging to comprehend and digest the findings. The extensive presentation of these results has resulted in a loss of interest and motivation to continue reading the paper. Authors should present the result in a more systematic way and organised. Simplify your result instead of giving so many figures and tables to made reader confuse and difficult to understand.
5. Practicality and/or Research implications: Does the paper identify clearly any implications for practice and/or further research? Are these implications consistent with the findings and conclusions of the
  1. The discussion and conclusion are required substantial improvement.
  2. The current version of the discussion is too shallow. The authors need to ensure that the key findings are discussed. The discussion section is where you delve into the meaning, importance, and relevance of your results. It should focus on explaining and evaluating what you found, showing how it relates to your literature review and research questions, and making an argument in support of your overall conclusion.
  3. There should be a standalone section for theoretical implications. How can you imply from the findings? This section should discuss the implications of the study's findings and how they contribute to the existing theoretical knowledge. Summarize the key findings and their relevance to the existing theoretical frameworks or models. Analyze how the findings align with or challenge current theoretical perspectives and concepts related to all the key concepts of this study. Discuss any theoretical insights or advancements that the study provides and highlight how the findings contribute to a deeper understanding of the research area.
  4. There should be a standalone section for practical implications. I would suggest the author provide implications based on current practices and policies.
  5. The current form of limitation and future research recommendation section is not well written. In this section, the authors should conscientiously identify the potential weaknesses or limitations of the study and provide insightful suggestions for future research directions. By incorporating this standalone section, the paper will not only address its own limitations but also serve as a valuable resource for researchers seeking to build upon the current study and expand the knowledge base in the field.
  6. Should have a standalone section for limitation and future research recommendation section. In this section, the authors should conscientiously identify the potential weaknesses or limitations of the study and provide insightful suggestions for future research directions. By incorporating this standalone section, the paper will not only address its own limitations

but also serve as a valuable resource for researchers seeking to build upon the current study and expand the knowledge base in the field.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.

1. Add more recent citations.
2. Required professional proofreading and editing services.

**Is the work clearly and accurately presented and does it cite the current literature?**

Yes

**Is the study design appropriate and is the work technically sound?**

Yes

**Are sufficient details of methods and analysis provided to allow replication by others?**

No

**If applicable, is the statistical analysis and its interpretation appropriate?**

Yes

**Are all the source data underlying the results available to ensure full reproducibility?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Educational management, leadership, behavioural studies

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.**

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