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LAMPIRAN

Lampiran 1. Petunjuk Pengisian Kuesioner

1. Bacalah setiap pernyataan di bawah ini dengan cermat.
2. Pilihlah satu jawaban yang paling sesuai dengan persepsi atau pengalaman Anda sendiri selama berinteraksi dengan Instagram @uajy.
3. Pilihlah salah satu keterangan pada kolom skala likert yang tersedia.
4. Keterangan pilihan jawaban:
 - **STS** : Sangat Tidak Setuju
 - **TS** : Tidak Setuju
 - **N** : Netral
 - **S** : Setuju
 - **SS** : Sangat Setuju

Lampiran 2. Instrumen Kuesioner Penelitian

No	Kode	Indikator	Skala likert				
			STS	TS	N	S	SS
1.	SI1	Saya sering memberikan respons (seperti menyukai, mengomentari, atau membagikan) pada postingan Instagram @uajy.					
	SI2	Pertanyaan atau komentar saya pada akun Instagram @uajy mendapatkan respons yang cepat.					
	SI3	Konten yang diposting oleh akun Instagram @uajy mendorong saya untuk berdiskusi atau bertukar pendapat dengan orang lain.					
	SI4	Keberadaan akun Instagram @uajy membantu meningkatkan hubungan saya dengan UAJY dan teman-teman.					
2.	SHI1	Informasi yang disampaikan oleh akun Instagram @uajy sudah cukup bagi saya.					
	SHI2	Akun Instagram @uajy menyajikan informasi yang selalu terbaru.					
	SHI3	Informasi pada akun Instagram @uajy disampaikan dengan detail yang tepat.					
	SHI4	Akun Instagram @uajy memudahkan saya untuk berbagi informasi dengan orang lain.					
	SHI5	Informasi yang diposting oleh akun Instagram @uajy membuat saya tertarik.					

No	Kode	Indikator	Skala likert				
			STS	TS	N	S	SS
3.	S1	Akun Instagram @uajy memberikan informasi yang baik tentang layanan yang ditawarkan.					
	S2	Akun Instagram @uajy selalu memperbarui informasi yang disampaikan					
	S3	Akun Instagram @uajy memberikan informasi mengenai promosi terbaru.					
	S4	Saya dapat menemukan informasi yang saya butuhkan melalui akun Instagram @uajy.					
4.	IQ1	Akun Instagram @uajy sering membagikan berbagai informasi.					
	IQ2	Informasi yang diposting oleh akun Instagram @uajy sering mendapatkan banyak komentar.					
	IQ3	Informasi yang diposting oleh akun Instagram @uajy sering mendapatkan banyak tanda suka.					
	IQ4	Informasi yang diposting oleh akun Instagram @uajy sering dibagikan oleh banyak pengguna.					
5.	RQ1	Saya merasa puas dengan kualitas relasi saya dengan Universitas Atma Jaya Yogyakarta (UAJY).					
	RQ2	Saya memiliki tingkat kepercayaan yang tinggi terhadap Universitas Atma Jaya Yogyakarta (UAJY).					
	RQ3	Saya merasa memiliki kedekatan secara emosional dengan Universitas Atma Jaya Yogyakarta (UAJY).					

No	Kode	Indikator	Skala likert				
			STS	TS	N	S	SS
5.	RQ4	Saya memiliki relasi yang berkualitas dengan Universitas Atma Jaya Yogyakarta (UAJY).					
6.	BI1	Menurut saya, Universitas Atma Jaya Yogyakarta (UAJY) memiliki reputasi yang baik.					
	BI2	Menurut saya, Universitas Atma Jaya Yogyakarta (UAJY) memiliki citra yang baik.					
	BI3	Menurut saya, Universitas Atma Jaya Yogyakarta (UAJY) merupakan universitas yang bergengsi					
	BI4	Menurut saya, Universitas Atma Jaya Yogyakarta (UAJY) memiliki kualitas yang tinggi.					
7.	BL1	Saya memiliki perasaan positif yang kuat terhadap Universitas Atma Jaya Yogyakarta (UAJY).					
	BL2	Saya mendukung Universitas Atma Jaya Yogyakarta (UAJY).					
	BL3	Saya mempertimbangkan untuk melanjutkan studi di Universitas Atma Jaya Yogyakarta (UAJY).					
	BL4	Saya merasa setia terhadap Universitas Atma Jaya Yogyakarta (UAJY).					

Lampiran 3. Output SmartPLS Uji Realibilitas dan Uji Validitas

Construct Reliability and Validity							
Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extract...	Copy to Clipboard	Excel Format	R Format
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)			
CITRA MEREK	0.896	0.899	0.927	0.761			
BERBAGI INFORMASI	0.874	0.878	0.908	0.664			
INTERAKSI SOSIAL	0.860	0.864	0.905	0.704			
KUALITAS HUBUNGAN	0.858	0.865	0.904	0.701			
LOYALITAS MEREK	0.849	0.855	0.898	0.689			
KUANTITAS INFORMASI	0.846	0.851	0.896	0.685			
PEMANTAUAN _	0.839	0.846	0.892	0.675			

Discriminant Validity							
Fornell-Larcker Criter...	Cross Loadings	Heterotrait-Monotrait ...	Heterotrait-Monotrait ...	Copy to Clipboard			
	BERB...	CITR...	INT...	KUA...	KUANTITAS INFORMASI	LOYALITAS MEREK	PEMANTAUAN _
BERBAGI INFORMASI	0.815						
CITRA MEREK	0.678	0.873					
INTERAKSI SOSIAL	0.638	0.567	0.839				
KUALITAS HUBUNGAN	0.693	0.690	0.679	0.837			
KUANTITAS INFORMASI	0.723	0.518	0.733	0.706	0.827		
LOYALITAS MEREK	0.602	0.690	0.709	0.691	0.640	0.830	
PEMANTAUAN _	0.833	0.668	0.664	0.725	0.763	0.579	0.822

Discriminant Validity							
Fornell-Larcker Criter...	Cross Loadings	Heterotrait-Monotrait ...	Heterotrait-Monotrait ...	Copy to Clipboard			
	BERBAGI INFORMASI	CITRA MEREK	INTERAKSI SOSIAL	KUALITAS HUBUNGAN	KUANTITAS INFORMASI		
BERBAGI INFORMASI	0.815						
CITRA MEREK	0.678	0.873					
INTERAKSI SOSIAL	0.638	0.567	0.839				
KUALITAS HUBUNGAN	0.693	0.690	0.679	0.837			
KUANTITAS INFORMASI	0.723	0.518	0.733	0.706	0.827		
LOYALITAS MEREK	0.602	0.690	0.709	0.691	0.640		
PEMANTAUAN _	0.833	0.668	0.664	0.725	0.763		

Discriminant Validity

	Fornell-Larcker Criter...	Cross Loadings	Heterotrait-Monotrait ...	Heterotrait-Monotrait ...	Copy to Clipboard:	Excel Format	R Format
	BERBAGI INFORMASI	CITRA MEREK	INTERAKSI SOSIAL	KUALITAS HUBUNGAN	KUANTITAS INFORMASI	LOYALITAS MEREK	PEMANTAUAN ...
SHI4	0.785	0.480	0.563	0.498	0.640	0.493	0.680
SHI5	0.803	0.561	0.573	0.615	0.599	0.536	0.642
SI1	0.564	0.578	0.820	0.633	0.574	0.591	0.620
SI2	0.493	0.430	0.868	0.561	0.647	0.624	0.537
SI3	0.499	0.417	0.830	0.503	0.612	0.601	0.531
SI4	0.578	0.458	0.838	0.568	0.630	0.564	0.529

Discriminant Validity

	Fornell-Larcker Criter...	Cross Loadings	Heterotrait-Monotrait ...	Heterotrait-Monotrait ...	Copy to Clipboard:	Excel Format	R Format
	BERBAGI INFORMASI	CITRA MEREK	INTERAKSI SOSIAL	KUALITAS HUBUNGAN	KUANTITAS INFORMASI	LOYALITAS MEREK	PEMANTAUAN ...
BI1	0.616	0.903	0.547	0.648	0.519	0.638	0.633
BI2	0.629	0.854	0.506	0.621	0.474	0.597	0.621
BI3	0.585	0.869	0.473	0.561	0.407	0.547	0.567
BI4	0.530	0.863	0.448	0.572	0.397	0.622	0.501
BL1	0.596	0.638	0.611	0.643	0.525	0.849	0.584
BL2	0.491	0.675	0.507	0.583	0.515	0.780	0.479
BL3	0.423	0.405	0.614	0.496	0.588	0.820	0.379
BL4	0.464	0.538	0.624	0.550	0.503	0.867	0.452
IQ1	0.701	0.594	0.493	0.641	0.772	0.486	0.747
IQ2	0.510	0.320	0.666	0.515	0.811	0.584	0.529
IQ3	0.608	0.426	0.620	0.623	0.893	0.482	0.667
IQ4	0.545	0.336	0.666	0.536	0.829	0.583	0.546
RQ1	0.685	0.680	0.646	0.871	0.644	0.582	0.716
RQ2	0.549	0.616	0.505	0.804	0.567	0.612	0.620
RQ3	0.516	0.425	0.527	0.817	0.515	0.538	0.480
RQ4	0.553	0.558	0.586	0.855	0.626	0.578	0.583
S1	0.716	0.558	0.609	0.641	0.647	0.516	0.874

Lampiran 4. Output SmartPLS Analisis Deskriptif

	No.	Missing	Mean	Median	Min	Max	Standard ...	Excess Ku...	Skewness
SI1	1	0	4.145	4.000	1.000	5.000	0.896	0.799	-0.978
SI2	2	0	3.792	4.000	1.000	5.000	1.082	-0.130	-0.690
SI3	3	0	4.006	4.000	1.000	5.000	0.935	0.182	-0.758
SI4	4	0	4.195	4.000	2.000	5.000	0.781	-0.119	-0.679
SHI1	5	0	4.390	4.000	3.000	5.000	0.643	-0.619	-0.582
SHI2	6	0	4.597	5.000	3.000	5.000	0.573	0.228	-1.097
SHI3	7	0	4.428	5.000	3.000	5.000	0.639	-0.532	-0.675
SHI4	8	0	4.472	5.000	2.000	5.000	0.642	0.526	-0.971
SHI5	9	0	4.434	5.000	2.000	5.000	0.678	0.863	-1.042
S1	10	0	4.465	5.000	3.000	5.000	0.602	-0.510	-0.653
S2	11	0	4.566	5.000	3.000	5.000	0.567	-0.203	-0.891
S3	12	0	4.509	5.000	1.000	5.000	0.662	3.947	-1.543
S4	13	0	4.390	5.000	2.000	5.000	0.700	-0.113	-0.824
IQ1	14	0	4.597	5.000	3.000	5.000	0.595	0.429	-1.199
IQ2	15	0	3.994	4.000	2.000	5.000	0.894	-0.801	-0.415
IQ3	16	0	4.390	4.000	2.000	5.000	0.691	0.545	-0.928

Indicators:	Indicator Correlations		Raw File						
	No.	Missing	Mean	Median	Min	Max	Standard ...	Excess Ku...	Skewness
IQ2	15	0	3.994	4.000	2.000	5.000	0.894	-0.801	-0.415
IQ3	16	0	4.390	4.000	2.000	5.000	0.691	0.545	-0.928
IQ4	17	0	4.101	4.000	2.000	5.000	0.826	-0.713	-0.461
RQ1	18	0	4.440	5.000	2.000	5.000	0.630	0.424	-0.837
RQ2	19	0	4.547	5.000	3.000	5.000	0.569	-0.345	-0.809
RQ3	20	0	4.302	4.000	2.000	5.000	0.661	-0.094	-0.556
RQ4	21	0	4.459	5.000	2.000	5.000	0.642	0.462	-0.927
BI1	22	0	4.642	5.000	3.000	5.000	0.553	0.628	-1.258
BI2	23	0	4.597	5.000	3.000	5.000	0.551	-0.091	-0.964
BI3	24	0	4.623	5.000	2.000	5.000	0.568	2.202	-1.429
BI4	25	0	4.604	5.000	3.000	5.000	0.550	-0.027	-0.994
BL1	26	0	4.447	5.000	3.000	5.000	0.600	-0.573	-0.584
BL2	27	0	4.623	5.000	3.000	5.000	0.546	0.183	-1.088
BL3	28	0	4.101	4.000	1.000	5.000	0.870	0.673	-0.834
BL4	29	0	4.321	4.000	1.000	5.000	0.763	1.684	-1.133

Lampiran 5. Output SmartPLS *Outer Loading*

Outer Loadings

	BERBAGI INFORMASI	CITRA MEREK	INTERAKSI SOSIAL	KUALITAS HUBUNGAN	KUANTITAS INFORMASI	LOYALITAS MEREK	PEMANTAUAN
BI1		0.903					
BI3		0.869					
BI4		0.863					
BI2		0.854					
BL1						0.849	
BL2						0.780	
BL3						0.820	
BL4						0.867	
IQ1					0.772		
IQ2					0.811		
IQ3					0.893		
IQ4					0.829		
RQ1				0.871			
RQ2				0.804			
RQ3				0.817			
RQ4				0.855			
S1							0.874
S2							0.830

Outer Loadings

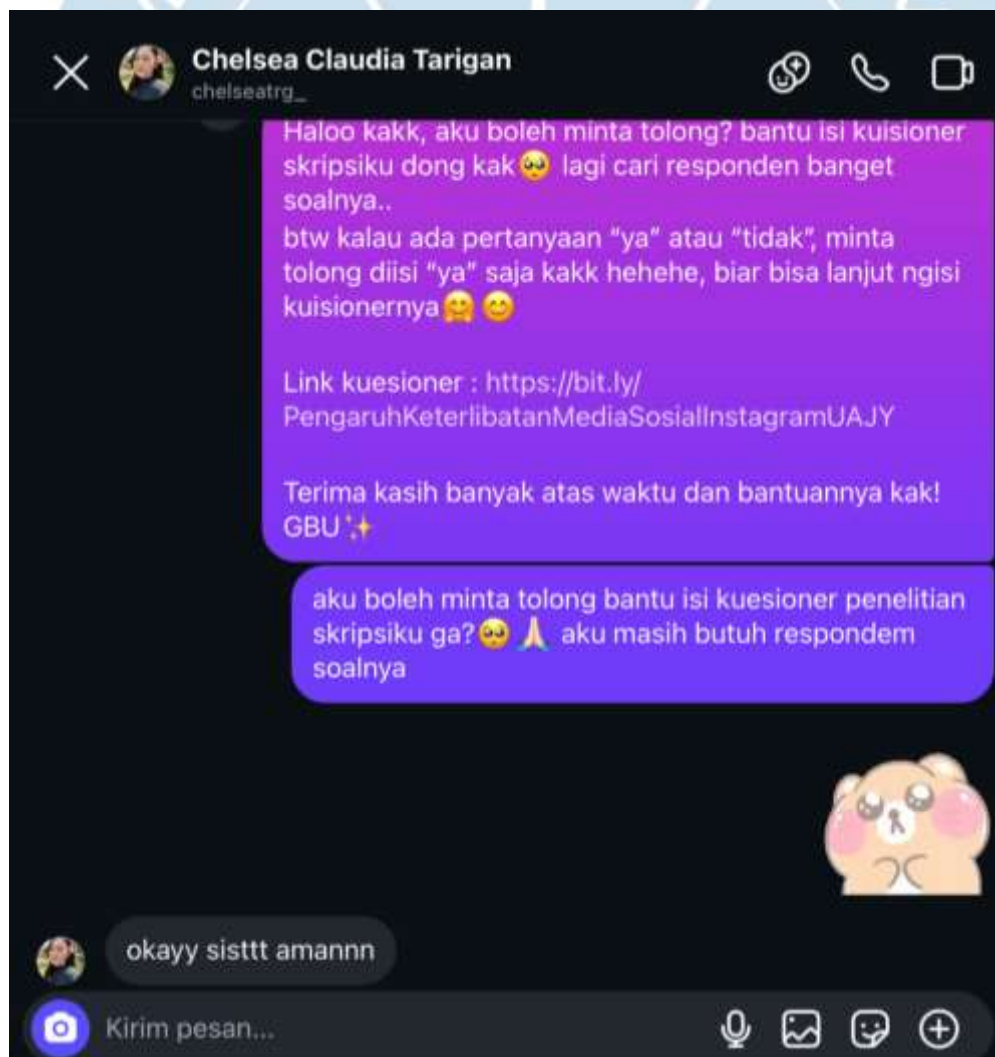
	BERBAGI INFORMASI	CITRA MEREK	INTERAKSI SOSIAL	KUALITAS HUBUNGAN	KUANTITAS INFORMASI	LOYALITAS MEREK	PEMANTAUAN
S2							0.830
S3							0.817
S4							0.762
SHI1	0.838						
SHI2	0.829						
SHI3	0.818						
SHI4	0.785						
SHI5	0.803						
SI1			0.820				
SI2			0.868				
SI3			0.830				
SI4			0.838				

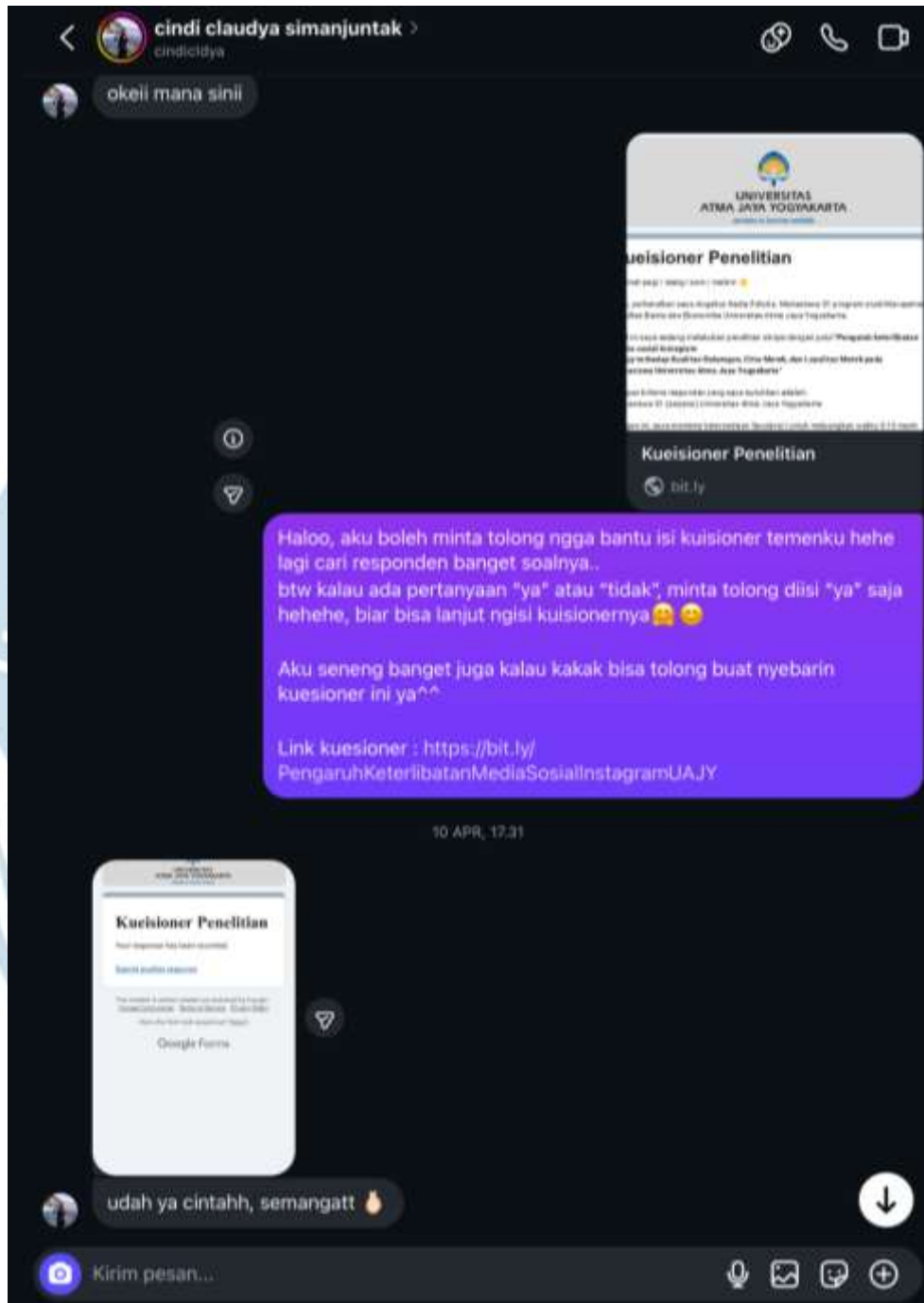
Lampiran 6. Output SmartPLS Uji *Path Coefficients (Bootstrapping)*

Path Coefficients

	Mean, STDEV, T-Values, P-...	Confidence Intervals	Confidence Intervals Bias ...	Samples	Copy to Clipboard:
	Original ...	Sample ...	Standard ...	T Statistic...	P Values
BERBAGI INFORMASI -> KUALITAS HUBUNGAN	0.165	0.169	0.141	1.172	0.242
INTERAKSI SOSIAL -> KUALITAS HUBUNGAN	0.249	0.238	0.136	1.833	0.067
KUALITAS HUBUNGAN -> CITRA MEREK	0.690	0.696	0.049	14.220	0.000
KUALITAS HUBUNGAN -> LOYALITAS MEREK	0.691	0.694	0.054	12.893	0.000
KUANTITAS INFORMASI -> KUALITAS HUBUNGAN	0.197	0.189	0.116	1.694	0.091
PEMANTAUAN -> KUALITAS HUBUNGAN	0.272	0.294	0.135	2.017	0.044

Lampiran 7. Bukti Penyebaran Kuesioner





Lampiran 8. Clean Data

Lampiran 9. Jurnal Acuan Utama



The role of social media engagement in building relationship quality and brand performance in higher education marketing

Role of social
media
engagement
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Abstract

Purpose – Social media engagement is widely used by the higher education institutions (HEIs) to improve brand performance through brand image and brand loyalty. This study focusses on the effect of social media engagement on relationship quality and brand performance in the higher education marketing (HEM) context. Social media engagement dimensions comprising social interaction, sharing of information, surveillance and information quantity are tested as antecedents to relationship quality. Relationship quality is examined as antecedents to brand image and brand loyalty.

Design/methodology/approach – Data are obtained through survey questionnaire from 410 undergraduate and postgraduate students from six HEIs in Malaysia. Structural equation modelling was applied for data analysis.

Findings – The findings of this study reveal that social interaction, sharing of information, surveillance and information quantity have positive effect on relationship quality. Relationship quality has significant positive influence on brand image and brand loyalty, respectively.

Originality/value – The study contributes to the extension of social exchange theory through the development of an integrative framework of social media engagement (exchange) needed for improving relationship quality (relational responses) and brand performance (behavioural outcomes) in the HEM.

Keywords Social media engagement, Relationship quality, Brand loyalty, Brand image, Brand performance, Higher education marketing

Paper type Research paper



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1. Introduction

Establishing a strong brand and strengthening the brand performance are critical success for organisational long-term growth. Brand performance is a relative measure of brand success

Funding: This research was funded by an internal grant from Taylor's University (Grant Number:

(Ehrenberg *et al.*, 2004). Brand performance is measured through customer-based metrics of brand image (Keller and Lehmann, 2003) and brand loyalty (Munoz and Kumar, 2004). Higher education institutions (HEIs) are prioritising on building distinct global brand recognition to achieve the desired brand performance. The HEIs have leveraged on traditional media to dynamic social media platforms to recruit students, build relationship with students and create positive brand image and student loyalty (Maresova *et al.*, 2020; Clark *et al.*, 2016). The increasing popularity of social media has influenced HEIs in utilising several most popular social media sites such as Facebook, Instagram, Twitter, YouTube, LinkedIn, Pinterest and Flickr. As of February 2021, Facebook had the highest adoption rate of 73.06% (total 10,076 institutions) by HEIs in the world (uniRank, 2021). Social media is a cost-effective avenue, and efficient to reach large and targeted population (Lund, 2019).

Social media engagement involves the process from consuming the content through interacting with the interface to cognitively immersed in the content and then participation behaviour such as discussion and sharing of content. Social media engagement can facilitate more effective interaction and connections between the HEIs and its potential and existing students (Kumar and Nanda, 2018), which help build relationship quality (Clark *et al.*, 2016). HEIs easily shared information, promote programmes or events, obtained online feedback and created online communities through social media engagement. Despite increasing attention given on social media engagement, the HEIs are facing various challenges in its implementation to build relationship quality and brand performance. The increasing operations costs, marketing expenditures and market complexity (Pavlov and Katsamakas, 2020) have led to the HEIs' crucial understanding and need to effectively engage students through social media platforms to build brand image and brand loyalty. However, the understanding on how effective is social media engagement strategies remain underexplored in the higher education marketing (HEM) context (Peruta and Shields, 2017). HEIs were lacked of focus on relationship quality as a solution to build students' loyalty (Snijders *et al.*, 2018). Also, how HEIs have utilised social media effectively to improve brand image remain ambiguous (Qi and Mackie, 2014).

Previous research studies have explored the social media engagement in HEM in the aspect of relationship quality (Clark *et al.*, 2016), relationship development and communication (Lund, 2019), strategy development (Kumar and Nanda, 2018) and content strategy (Demirer, 2017). Rutter *et al.* (2016) stressed that future research should explore the social media engagement effectiveness on branding performance in the HEM context. Past studies (i.e. Molinillo *et al.*, 2019; Song and Liew, 2018) in different research areas have proven that brand image and brand loyalty are the dimensions of brand performance. Hence, we conduct this study to address the research gap by emphasizing on the HEI students' perspective on the important dimensions of social media engagement that effect relationship quality, and brand image and brand loyalty in HEM. The main objectives of the present study are: 1) to examine the effect of social interaction, sharing of information, surveillance and information quantity of social media engagement on relationship quality in HEM, 2) to examine the effect of relationship quality on brand image and brand loyalty in HEM.

This research has two main contributions. In theoretical contribution, the social exchange theory (SET) is applied to explore consumers' evaluation on the role of social media engagement in influencing relationship quality, brand image and brand loyalty towards the HEIs. Therefore, this study is expected to develop an integrative framework of social media engagement (exchange) needed for improving relationship quality (relational responses) and brand performance (behavioural outcomes) in the HEM. In practical contribution, the findings provided valuable information to the HEIs on effective social media engagement strategies focussing on building relationship quality and brand performance.

2. Literature review and hypotheses development

2.1 Social exchange theory (SET)

The SET analyses an economic approach and social relationship situations to study the benefits gained in an exchange relationship that are expected to be provided by others (Homans, 1958), in which may contribute in economic and social implications. Individuals expect reciprocal benefits from one another on the assumption that the exchange would benefit from both parties (Bierstedt and Blau, 1965). SET consists of two main contexts of exchange – content and process (Zoller and Muldoon, 2019). The content of the exchange involves “what” related to the various resources that are exchanged between parties. The process of exchange involves “how” related to the way relevant parties can obtain benefits from each other. A series of successful reciprocal exchanges may transform an economic exchange relationship into a high-quality social exchange relationship (relational responses) and behavioural outcomes (behavioural responses) (Cropanzano *et al.*, 2017).

SET can be applied to explain the relationship between social media engagement, relationship quality and brand performance in HEM research. The maintenance of social media engagement relies on the expected reciprocal benefits of SET that are exchange between social media community. Social interaction, surveillance and information quantity are forms of social exchange, while sharing of information is the knowledge exchange. From the exchanges, the relational responses formed is relationship quality (Clark *et al.*, 2016) that is proposed to contribute to consumer behavioural responses, such as brand image (Chen, 2015) and brand loyalty (Snijders *et al.*, 2020) towards the HEIs.

SET has been applied in past research studies in higher education (Sharabi, 2013; Clark *et al.*, 2016), mobile social networks (Abedi *et al.*, 2019) and telecom mobile (Alkhoms and Alnsour, 2013) to explore the relationship between social media engagement and relationship quality. It is suggested to extend the SET by including and testing the consumer behavioural responses as the outcome to the exchange and relational responses in the HEM research context (Clark *et al.*, 2016). Hence, in this study, brand performance dimensions comprising brand loyalty and brand image are selected as the behavioural outcomes of customers for the extended SET.

2.2 Social interaction

The interaction between social media communities such as reviews or blogs are shared from similar goals, value or beliefs as form of social media engagement. The usage of social media interactively leads to fostering relationships between prospective and current students and the HEI's brand (Rutter *et al.*, 2016). Prospective students feel valuable as they are given attention by the HEI, and this contributed to better image they have on the HEI (Salem, 2020). HEIs responded to the interactions between users or reply to the question posted by the user at the social media platform have fostering better engagement and relationship building with the users, as well as potential students (Rutter *et al.*, 2016). Strong online brand communities with quality interactions will enhance brand image and brand loyalty (Anaya-Sánchez *et al.*, 2020). Students provided negative comments on their HEI at social media had negatively affected their relationship quality with the HEI (Papademetriou *et al.*, 2022). Therefore, we hypothesise that:

H1. Social interaction has a significant positive effect on relationship quality in HEM.

2.3 Sharing of information

Creating and sharing content online have dominant roles in social media. Barwise and Meehan (2010) asserted that HEIs can build high-quality relationships with their students by sharing latest information with their students via social media. Prospective students utilised

social media to predominantly seeking information from the HEI and contributed to followers closely linked to the HEI's brand (Rutter *et al.*, 2016). Students shared information on their HEI's development and performance, academic activities, personal opinions and academic issues on social media (Gok, 2016; Tayo *et al.*, 2019). Students who share academic information on social media have created a culture of engagement amongst students and lecturers or HEIs, which improved their relationship quality (Bashir *et al.*, 2021).

Clark *et al.* (2016) stressed that HEIs that have multiple social media platforms but lagging in posting information or providing irrelevant, uninteresting or inaccurate information will cause poor relationship quality with their students. Tayo *et al.* (2019) highlighted that social media engagement involving sharing of negative information such as accessing inappropriate content, online harassment and cyber bullying can create intense pressure towards the relationship between the parties involved. Thus, the below hypothesis is put forward:

H2. Sharing of information has a significant positive effect on relationship quality in HEM.

2.4 Surveillance

Surveillance refers to individual's motive in seeking information or to self-educate through the use of media (Whiting and Williams, 2013). Surveillance involves updating with current happenings and acquires understanding of issues. Customers believed that their interactions are beneficial when they acquired high quality information (Gummerus *et al.*, 2012). Information at social media creates new opportunities for engagement and surveillance (Humphreys and Wilken, 2014). Tokunaga (2015) reported that there is a connection between low-quality relationships associated and low satisfaction level of customers through online surveillance.

For successful social media marketing and enhance relationship building with the students, HEIs must share quality information to meet the need or requirement of the students (Irfan *et al.*, 2018). Relationship quality building with existing students is strengthened through exposure given on student's real life experiences at the campus. Therefore, we propose the below hypothesis:

H3. Surveillance has a significant positive effect on relationship quality in HEM.

2.5 Information quantity

Information quantity refers to the quantity of comments, electronic word of mouth reviews and number of "like" (Song *et al.*, 2021). In the context social media engagement of HEIs, the information content influenced the number of comments, shares and likes, serve as important indicators for brand posts' popularity (Demirer, 2017). Furthermore, the quantity of information produced by user reviews impact the higher trust as dimension of relationship quality (Do-Hyung *et al.*, 2007).

Kapoor *et al.* (2018) posited that the interaction frequency in social media sites increased the level of trust in relationship quality between the related parties. Users of social media who engaged more on the amount of posts and comments, and frequency of tags and "likes" achieved more effective bonding social capital (Davis III *et al.*, 2015). Thus, we conjecture the following hypothesis.

H4. Information quantity has a significant positive effect on relationship quality in HEM.

2.6 Relationship quality

Relationship quality involves the evaluation by consumers on the strength of relationship with the business organisation (Crosby *et al.*, 1990). Hon and Grunig (1999) recommended

trust, satisfaction, control mutuality, exchange relationships, commitment and communal relationship as the relationship quality dimensions. [Ulag and Eggert \(2006\)](#) conceptualises relationship quality as commitment, satisfaction and trust. There are substantial studies that have recommended the relationship quality dimensions based on commitment, trust and satisfaction ([Hon and Grunig, 1999](#)). Therefore, this study emphasizes on four key dimensions of satisfaction, commitment, trust and control mutuality as students' evaluation on the relationship quality they have with their HEIs.

2.7 Brand image

Brand image is described as the perception and impression of the brand in the mind of customer ([Cho and Fiore, 2015](#)). A positive brand image can enhance the performance of the brand ([Ozturk et al., 2016](#)). To build a strong brand image, social media engagement on brand and usage experiences has greater efficiency.

According to [Bruhn et al. \(2012\)](#), brand image dimensions are brand benefits and attributes. Brand image can be measured in the perspective of hedonic brand image and functional brand image. Hedonic brand image refers to measurement of consumer's emotions or feelings towards the brand. Functional brand image involves measurement of performance of the brand in brand image. Students' with strong attachment strength and relationship with the HEIs will have better brand image perception towards the institution ([Dennis et al., 2016](#)). Therefore, we conjecture:

H5. Relationship quality has a significant positive effect on brand image in HEM.

2.8 Brand loyalty

Brand loyalty refers to consumer's commitment to rebuy or repatronize a preferred product or service consistently in the future ([Zhang et al., 2016](#)). Quality of relationship between the parties involved is an important determinant of brand loyalty ([Leverin and Liljander, 2006](#)). In HEI context, brand loyalty is shown by the students' strong affection and support towards the university brand ([Chen, 2016](#)), demonstrated by the students' positive word-of-mouth evaluations to others, recommending the services to others and protecting the university virtues ([Latif et al., 2021](#)). Students' brand loyalty also involves their desires to continue relationship with the university by maintaining an on-going relationship with the existing HEI, and obtaining continuous or further education at the HEI ([Latif et al., 2021](#)).

Social media engagement had positively influenced relationship quality, and subsequently on brand performance outcome of brand loyalty ([Orhan and MacIvaine, 2020](#)). The more engaged customers in social media, the higher achievement of satisfaction, brand relationship quality and brand loyalty ([Orhan and MacIvaine, 2020](#)). Scholars (i.e. [Song and Liew, 2017](#); [Auruskeviciene et al., 2010](#)) have confirmed on the significant relationship between relationship quality and brand loyalty. The following hypothesis is put forward:

H6. Relationship quality has a significant positive effect on brand loyalty in HEM.

Figure 1 presents the research model indicating four independent variables of social interaction, sharing of information, surveillance and information quantity towards the relationship quality. Subsequently, relationship quality is correlated to brand image and brand loyalty, respectively.

3. Research methodology

3.1 Sampling procedures and data collection

This study's target population comprises students aged above 18, who have experienced social media engagement at social media platforms, such as Facebook, Instagram, Twitter,

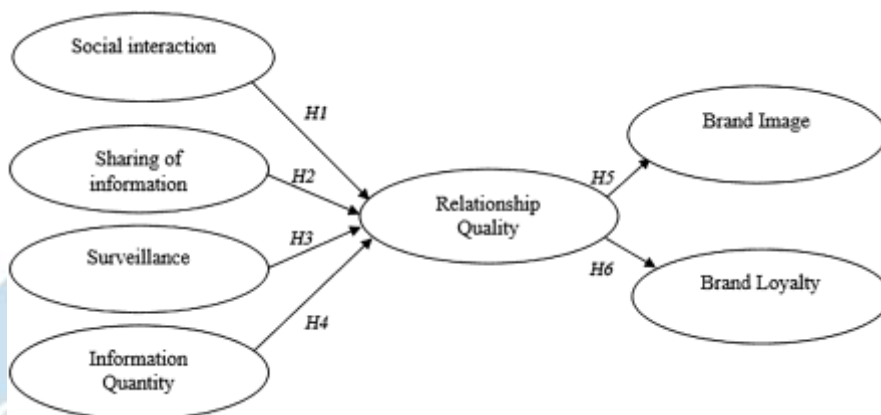


Figure 1.
Conceptual framework

YouTube, Flickr and LinkedIn, of the HEIs in Malaysia. According to [Hair et al. \(2017\)](#), the rule-of-thumb for determining sample size is based on 5 to 10 times the number of measuring items in the questionnaire. The measurement model consists of seven constructs with 29 measuring items. Therefore, the suggested sample size should be between 203 (7 3 29) and 290 (10 3 29). We have determined a sample size of 410 to fulfil the prerequisite for covariance-based SEM analysis.

Convenience sampling method was utilised to select the sample of 410 respondents who were existing undergraduate and postgraduate students at six HEIs located in Malaysia. The criteria requirement for the students to participate in the survey was they must have experienced social media engagement at the social media platforms of their respective institution within the past three months. Students were approached face-to-face by the researchers to complete the survey questionnaire on voluntary basis at their respective institution. Convenience sampling enables survey to be conducted fast and conveniently on the targeted respondents.

3.2 Measures

The measurements for each construct were developed by using and adapting existing scale items in the literature. All 29-item scale measurement were recorded using a six-point Likert scale between 1 (strongly disagree) and 6 (strongly agree). A Likert scale of six-point was deemed suitable to avoid responses at the neutral point. In order to ensure that the respondents are comprehension of the questionnaires, a pilot study was conducted on 30 undergraduate and postgraduate students.

3.3 Validity and reliability assessment

The validity of the measures is assessed using the exploratory factor analysis (EFA) with the objective to exclude items with factor loading value of less 0.3. EFA is assessed through maximum likelihood extraction and Promax rotation, the findings generated seven dimensions with KMO score of 0.880 with significant at $p < 0.000$. The EFA result was above the minimum acceptance value of 0.6 ([Pallant, 2007](#)). As for the 29 items, the factor loading results were all above 0.3 shown that the measurement items have good construct validity and will be maintained for further analysis. [Table 1](#) presents the validity and reliability assessment results. Reliability assessment using Cronbach's alpha (CA) shown that all CA values were above the minimum acceptance level of 0.7 ([Hair et al., 2017](#)). The composite reliability (CR) values were

Construct (source)		Item	CR, AVE, CA	Factor loading	Role of social media engagement
Social Interaction (Zhang et al., 2016 ; Voorveld et al., 2018)	SI1	Frequently interacts with followers	0.895 (CR)	0.765	423
	SI2	Responds timely to inquiries or comments	0.682 (AVE)	0.830	
	SI3	Encouraged conversation or opinion exchange with others	0.894 (CA)	0.884	
	SI4	Encouraged better connection with the university/friends/others		0.820	
Sharing of Information (Patrakosol and Lee, 2013 ; Plume and Slade, 2018)	SN1	Provides sufficient information	0.854 (CR)	0.676	
	SN2	Provides up-to-date information		0.764	
	SN3	Provides information at the right level of detail	0.540 (AVE)	0.754	
	SN4	Enabled sharing information with others	0.851 (CA)	0.795	
	SN5	Shared information that create interest		0.676	
Surveillance (Song and Liew, 2018)	SV1	Provides good information on its services	0.804 (CR)	0.695	
	SV2	Keep up-to-date information	0.506 (AVE)	0.726	
	SV3	Provides information on latest promotions	0.802 (CA)	0.750	
	SV4	Offered customised information search		0.673	
Information Quantity (Seo and Park (2018) ; Voorveld et al., 2018)	IQ1	Posted a lot of information	0.828 (CR)	0.673	
	IQ2	Posted information often received high number of comments	0.547 (AVE)	0.755	
	IQ3	Posted information often received high number of "likes"	0.823 (CA)	0.827	
	IQ4	Posted information often received high number of "shares"		0.694	
Relationship Quality (Clark et al., 2016)	RQ1	Satisfied with the quality of relationship with university	0.889 (CR)	0.725	
	RQ2	High level of trust towards university	0.668 (AVE)	0.823	
	RQ3	Emotionally attached to university	0.889 (CA)	0.869	
	RQ4	High quality relationship with university		0.844	
Brand Image (Chen, 2016 ; Cho and Fiore, 2015)	BI1	University brand has positive reputation	0.825 (CR)	0.734	
	BI2	University brand has good image	0.541 (AVE)	0.724	
	BI3	University brand is prestigious		0.741	
	BI4	University brand is perceived as high quality	0.824 (CA)	0.743	
Brand Loyalty (Chen, 2016)	BL1	Strong affection with university brand	0.817 (CR)	0.730	
	BL2	Support university brand	0.528 (AVE)	0.740	
	BL3	Consider to continue pursue study at current university	0.815 (CA)	0.730	
	BL4	Loyal to university brand		0.705	

Table 1.
CFA, Cronbach's
alpha, CR and AVE
results

ranged from 0.804 to 0.895, which were also above the threshold level of 0.6 ([Bagozzi and Yi, 1988](#)). The average variance explained (AVE) values were between 0.506 and 0.682, and achieved above the benchmark limit of 0.5 ([Fornell and Larcker, 1981](#)).

4. Results
4.1 Demographic profile of the respondent

Table 2 shows the respondents' demographic profile. From the total 410 respondents, 230 were female (56%) and 180 were male (44%) respondents. Majority respondents of 36% were between age category of 21 and 25. In education level, the respondents were undergraduate (65%) and postgraduate (35%) students. Majority respondents of 35% have accessed social media sites of the HEI between 7 and 9 times within a week.

4.2 Structural paths and hypotheses tests

SEM analysis was performed using SPSS AMOS version 26 to assess the conceptual model and perform hypotheses testing. The structural model has achieved an overall good fit, supported by the fitness indices. The chi-square value was 877.958 and x2/df was 2.405. RMSEA value is 0.059, which meets the minimum requirement level of 0.08 (Hooper et al., 2008). All incremental fit values achieved were above 0.9, with IFI of 0.912, CFI of 0.912 and TLI of 0.902. Table 3 presents the hypotheses results.

Demographics	Percentage
Gender	
Female	56%
Male	44%
Total	100%
Age	
18–20	20%
21–25	36%
26–30	33%
31–35	8%
36–40	2%
41 and above	1%
Total	100%
Education level	
Undergraduate	65%
Postgraduate	35%
Total	100%
Frequency of accessing social media sites of the HEIs within a week (number of times)	
1–3	21%
4–6	33%
7–9	35%
More than 10	11%
Total	100%

Table 2.
Respondents'
demographic profile

H	Path	Estimate	p values	Result
H1	Social Interaction → Relationship Quality	0.265	***	Supported
H2	Sharing of Information → Relationship Quality	0.319	***	Supported
H3	Surveillance → Relationship Quality	0.184	0.006	Supported
H4	Information Quantity → Relationship Quality	0.335	***	Supported
H5	Relationship Quality → Brand Image	0.527	***	Supported
H6	Relationship Quality → Brand Loyalty	0.303	***	Supported
Note(s): ***p < 0.001				

Table 3.
Hypotheses results

The study found that all six hypotheses have been supported empirically. Hypothesis H1 indicates that social interaction has a significant positive effect on relationship quality with significant $p < 0.001$ and $\beta = 0.265$. H2 is supported with $\beta = 0.319$, $p < 0.001$, confirming that sharing of information has a significant positive effect on relationship quality. Subsequently, H3, yield a significant result confirming that the surveillance has a significant positive effect on relationship quality with $\beta = 0.184$, $p = 0.006$. H4 is accepted with $p < 0.001$ and $\beta = 0.335$, proving that information quantity has a significant positive effect on relationship quality. For the relationship between relationship quality and brand image, recorded $\beta = 0.527$, $p < 0.001$ which indicate significant relationship between the constructs, and H5 is supported. Lastly, H6 is also significant at $\beta = 0.303$, $p < 0.001$, confirming relationship quality has a positive significant effect on brand loyalty. The squared multiple correlations for the relationship quality construct is 0.376, brand image construct is 0.381 and brand loyalty construct is 0.187. Figure 2 presents the structural model.

5. Discussion

Overall, the findings conclude that all the social media engagement dimensions have positively influenced relationship quality, which leads to brand image and brand loyalty. Information quantity had the highest correlation coefficient value compared to social interaction, sharing of information and surveillance constructs. The HEIs have managed to provide necessary amounts of information that are substantial to the students to build their presence in social media. Furthermore, the information posted were effective in engaging the social media users to provide more comments, higher “shares” and expression of “likes” to the

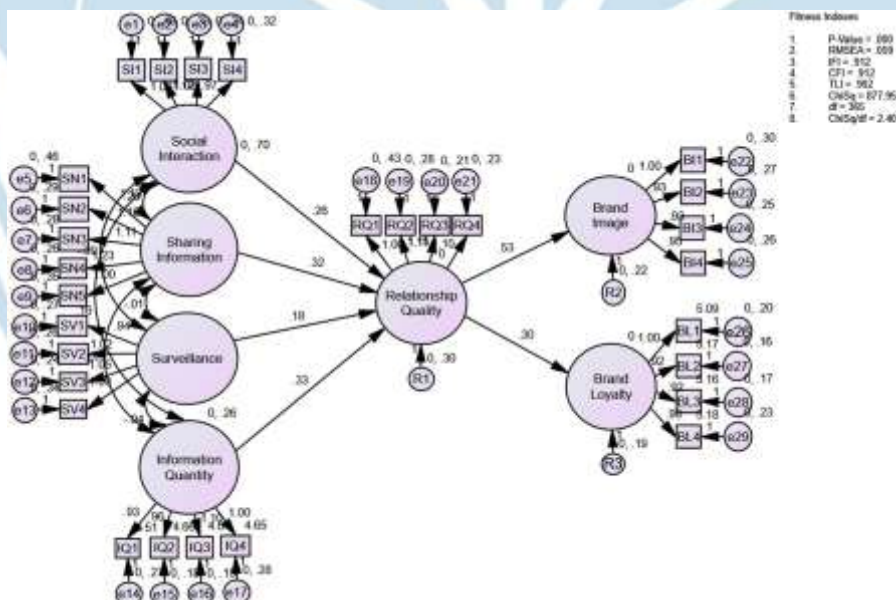


Figure 2.
Structural model

content. HEIs can further improve information quantity through having more activities or events involving important stakeholders, and timely posting of the information at various social media platforms. The high frequency of information posting at social media will create excitement for users, stimulate users to react through posting comments, share with others and “likes”, users will be more engaged and relationship strengthening between the users themselves, as well as with the institutions (Orhan and MacIrvine, 2020).

The findings also indicate that the HEIs are efficient in sharing sufficient and latest information, as well as beneficial social media platforms to encourage sharing of information by its users. Hence, the HEIs have to share diverse amounts of information that are specifically targeting these two different groups of prospective and current students on social media platforms. The results show that social interaction was also the main source of effective social media engagement, whereby the students stay connected with each other for better and long-term relations with HEIs. HEIs have to be more responsive to the users’ posts and encourage stimulation of chain interaction between the users to improve relationships and brand performance.

To enhance surveillance, the HEIs need to prioritise on the content communication on new courses offered and latest promotions at social media. Valuable information supported with evidence such as pictures or videos will improve trust and build better relationship with the social media users. Relationship quality had positive influence on brand image and brand loyalty, respectively, which revealed that the students believe their institutions have managed well their relationships through social media engagement. Hence, the HEIs should be responsible for communicating well its identity, managing quality relationships with stakeholders, present good brand image and build brand loyalty through social media engagement. Social media marketing strategies focussing on building strong engagement should be planned appropriately, targeting different segment of social media users. The allocation of substantial resources and formation of specific team are needed to drive social media engagement strategies.

6. Conclusion

Our research have extended SET through the development of an integrative framework of social media engagement (exchange) needed for improving relationship quality (relational responses) and brand performance (behavioural outcomes) in the HEM. As for the limitations in the present study, this investigation comprised sample of students from selected six HEIs in Malaysia. Subsequent research should explore samples from different countries for comparative of the findings. The present study investigated the role of social media engagement in building relationship quality and brand performance. Further research should consider other mediating variables related to social media users’ attitudes.

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