Investigating Factors of Service Quality Influencing Patient Satisfaction towards Patient Loyalty

Nur Salsabilah Hamdan*, Haslinda Musa, Atikah Saadah Selamat, Nurulizwa Rashid

Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia

Abstract

The main purpose of the paper is to recognize the service quality factors impact on patient satisfaction in health clinic towards patient loyalty. The study is based on surrey approaches for the preliminary pilot test of 50 respondents. This study was fully conducted in quantitate study and implementation of research was conducted in Melaka, Malaysia. The research model included four dimensions which ate infrastructure quality, procedural quality, interaction quality and personnel quality. The results are based on descriptive analysis and reliability tests and all dimensions are significant when testing reliability. The research provided further research and pilot-based data.

Keywords: *healthcare, patient loyalty, patient satisfaction, service quality*
_____

1. Introduction

Service quality is a field of research that has been funded by a large number of researchers, for the implementation scales of service quality, to develop and test theoretical models, and for the measurement of service quality in various industries such as hospitality, education, retail, information technology, manufacturing, banking and healthcare. Service quality dimension plays an important role on patients' satisfaction. Satisfied patients are significant in the medical industry because the patients ' treatment will lead to a greater adherence with the doctor's orders, more patient satisfaction, fewer complaints, and a greater number of patient referrals [1]. On the other hand, patient satisfaction with proper healthcare system can reflect not only the perceived performance of healthcare service but also the health condition of the individual.

Based on study by [2] argued that inefficient performance management system and a poor work culture can significantly contribute to the high rate of medical errors. A clinic or hospital can never be rated better for service provision without adequate management of its physical environment or facilities. Hence, in [3] stated that all health care organizations, as it relates to core health service management which includes treatment, should place great emphasis on infrastructural performance. According to [4, 5], nearly all patients (94%) believed that wait times impacted daily life negatively. Malaysian patients' main dissatisfaction is the long waiting time that can lead to stress [6]. Therefore, procedural quality affecting the delays in the delivery process of the service in the clinic or hospital.

Moreover, low interaction quality improvement affected patient care and communication abilities of doctors, nurses and staff. According to previous study by [7], long waiting times were triggered by long queues caused by the registration counter being staffed by clerk staff, who are also responsible for appointing patients. Hence, this problem leads to this study to be conducted on interactional quality. Healthcare literature argued that some of existing medical education curricula do not address human errors [8]. A lack of clear understanding of quality care lead to this study to be conducted on personnel quality [9]. According to the study by [10] reported that approximately 70% to 80% of medical errors are related to human mistakes. This paper therefore recognizes the factors of service quality that influence patient satisfaction and patient loyalty.

2. Literature Review
2.1. Service Quality and Patient Loyalty

Marketing literature suggested that customer loyalty can be described like an attitude in mentality, whereas a another meaning is behavioral [11]. Some studies investigate the immediate impact of service quality and satisfaction on loyalty. The purpose based on present study by [12] was to

examine the impact of service quality on word of mouth by pleasing the patient. The result demonstrates that the better quality, the more satisfying patients are, and more word of mouth is provided. Patients will therefore be satisfied and encouraged to speak and to raise the patient population.

Thus, constructive mouths are the most basic indicators for developing future behavior and attitudes which include oral, individual correspondence with individuals between a recipient and a transmitter [13, 14]. Two direct structures can be seen as the link between service quality and loyalty that communicate better service quality and create customer loyalty whilst indirect effects communicating satisfaction interfering with the quality of service and loyalty of the customer [13].

Several studies such as [15, 16] argue that satisfaction of customer necessary lead to their loyalty. This is founded on the basic assumption that patients are very likely to choose this clinic in future when they are happy with the services provided. According to the literature, the research hypothesized that:

H1. Service quality dimension is positively related with patient loyalty

2.2. Service Quality and Patient Satisfaction

Patient satisfaction is the key driver when service quality exceeds expectations. Patient satisfaction is also widely used in healthcare settings to determine clinic or hospital service quality. The service quality dimensions became considerably more important in order to satisfy and protect patients [17]. A few results in the clinical or hospital assessment found that clients can have access to the structure process and outcome of the service [13, 18].

Many researchers have established the correlation between service quality and patient satisfaction. The study by [19] reported that performance services perceived were connected directly and indirectly. The outcome was a direct effect on satisfaction and motivation of perceived service quality while indirect effect on loyalty. In [16] studied the relationship between the dimensions of service quality and loyalty and concluded that the dimensions of service quality influence the satisfaction of patients and are directly related to patient loyalty. Moreover, in [20] confirmed a positive relationship between service quality, satisfaction and loyalty.

In Malaysia, the government given subsidies for the healthcare costs of patients in public hospital or clinic. As the main objective of this study is to investigate the factors affecting patient satisfaction and loyalty in health clinic at Melaka and believe that service quality dimensions in healthcare context are more relevant. Thus, the study hypothesized that:

H2. Service Quality dimensions is positively related with patient satisfaction

2.3. Patient Satisfaction and Patient Loyalty

According to the study by [21] stated that patient satisfaction has significant effect on patient loyalty. The two strategic constructs that have to be tracked and sustained are patient satisfaction and loyalty. In [22] has explained by analyzing that consumer satisfaction will directly affect customer loyalty. The positive behavior of patients will then build trust that can directly affect customer loyalty [23]. In the literature [24, 25], are specifically interconnected within service quality dimensions and patient loyalty. In [26] examined customer satisfaction as one of the reasons for client loyalty development. In [25] noted that the want to come back to the hospital and stand up to the rest is called behavioral intentions. Although client loyalty for the example such as positive word of mouth and repurchase and characterized as a function of consumer satisfaction [27, 28]. The study hypothesized on the basis of literature:

H3. Patient satisfaction is positively related with patient loyalty.

2.4. Patient Satisfaction as Mediator between Service Quality and Patient Loyalty

At the level that is considered to be the satisfaction of customers when enjoying the product or service. Satisfaction can be defined as a positive human response to a certain concentration resolved at a given time [13]. This turns out that at one point it is extremely difficult to satisfy everyone or to determine if people come together because people have different opinions and expectations in general [2]. At the same time, however, the assessment of patient satisfaction is essential for both

patients and the medical community [30]. In addition, patient satisfaction is not just essential for treatment purposes but also for the underlying treatment choice [23]. Customer satisfaction motivates positive results, such as higher patient service rates, constructive verbal exchanges and increased profit for healthcare suppliers [31]. Patient satisfaction usually is a subjective thinking that results from a health association evaluation and an understood connection between the actual performance and people's expectations [13].

The dimensions of service quality were checked for customer loyalty if patient satisfaction relates between the relationships. Therefore, this study using four service quality dimensions to achieve the objective. Patient satisfaction serves as a medium between service quality and behavioral intentions [32]. In [33] analyzed the satisfaction of the consumer as one of several factors to increase customer loyalty. Furthermore, in the study by [34] stated that patient satisfaction mediates the relationship between service quality and loyalty. The study is therefore hypothesized as supported by literature:

H4. Patient satisfaction mediates the relationship between service quality and patient loyalty.

3. Methodology
3.1. Design of Instrument

The analysis of a quantitative approach, which usually uses a questionnaire to obtain information from respondents. A questionnaire is a means of obtaining information from patients at the health clinic in the survey method of this research. An instrument for the fundamental research goals was developed from the literature review. The questionnaire included 61 questions in 3 sections: Section A of Demographic Profile of patients, Section B of Service Quality in Health Clinic at Melaka, Section C of Patient Satisfaction and Patient Loyalty. Table 1 represents the arrangement of the research instrument of the survey.

Table 1. Arrangement of the Research Instrument

Section	Category	No. of Items
A	Demographic	10
B	Service Quality 1. Infrastructure Quality 2. Procedure Quality 3. Interaction Quality 4. Personnel Quality	 11 10 11 11
C	Patient Satisfaction Patient Loyalty	4 4
	Total	61

Section A includes ten questions to determine the patients background. Questions that pertained to their gender, age, race, education level, marital status, income, current employment status, purpose of visit to clinic, district of health clinic and overall health service were asked.

Section B of the instrument was designed specially to gauge the quality of health clinic service quality from four dimensions including infrastructural quality, procedural quality, interaction quality and personnel quality. These questions are based on the service quality literature. All the instrument in Table 2 were adopted from previous literature review by [1], [13], [35-40].

Service quality dimensions influence the information about patient satisfaction and patient loyalty in Section C. Table 3 were adopted from [41, 42]. Respondents were required to rate on a five-point Likert scale using the form of "1" as "Strongly Disagree" to "5" as Strongly Agree". Evidence shows that Likert data is considerably reliable if the scale points are higher than 5 and lower than 7 [43]. This study has established a questionnaire using the instruments validated as points of reference.

Table 2. Service Quality from Four Dimensions

No.	Items	Means	Standard

			Deviation
Infrastructure Quality			
TA1	Clinic has a clean waiting area, toilet, clinical or diagnostic room and common area.	3.58	1.130
TA2	Clinic has attractive physical facilities (Example: reception area, corridors, outpatient department, car park, etc.)	3.75	0.840
TA3	Clinic has prominent directional signage and prevention measures to increase awareness of health.	3.78	0.832
TA4	Clinic has the comfortable temperature and noise level.	3.75	0.927
TA5	Clinic has convenient operating hours.	3.78	1.025
TA6	Clinic has convenient location.	4.10	0.810
TA7	Clinic has clinical and diagnostic test facilities.	3.65	0.949
TA8	Clinic has medical equipment in good working condition.	3.83	0.781
TA9	Clinic has the medication required on time.	3.65	0.921
TA10	Clinic has doctors and nurses when needed.	3.83	0.874
TA11	I feel good about the quality of the physical environment at the clinic.	3.80	0.883
Procedure Quality			
PRO1	Clinic has a quick and easy admission process.	3.58	1.130
PRO2	Clinic has the convenience of getting a medical appointment.	3.45	1.154
PRO3	Clinic has a good time to wait. (from arrival to leaving)	3.08	1.248
PRO4	Clinic has reasonable waiting time for diagnostic tests and treatments.	3.20	1.114
PRO5	Clinic has a minimum waiting time to meet with the doctors.	3.03	1.074
PRO6	Clinic has appropriate hygienic care and processes to avoid infection.	3.68	0.971
PRO7	Clinic has safety measures to avoid falls, such as ramps, handrails and elevators.	3.73	0.960
PRO8	Clinic maintains the privacy and confidentiality of patients.	3.68	0.917
PRO9	Clinic has the frequency of delays or cancellation of planned processes due to lack of resources.	3.15	1.099
PRO10	I feel great about the procedural process at the clinic.	3.38	1.055
Interaction Quality			
IN1	Clinic has friendly and caring attitude shown by doctors.	3.65	1.122
IN2	Clinic has friendly and caring attitude shown by nurses.	3.68	1.228
IN3	Clinic has friendly and caring attitude shown by medical staff.	3.60	1.105
IN4	Clinic has friendly attitude shown by the administrative staff.	3.58	1.059
IN5	Clinic has willingness of medical staff to help patients.	3.58	1.107
IN6	Clinic has medical staff are responsible for patient queries or problems.	3.68	1.047
IN7	Clinic pays attention to the patient's beliefs and emotions.	3.48	1.086
IN8	Clinic understands the specific needs of patients.	3.63	0.952
IN9	Clinic has clarity of information on treatment processes.	3.70	1.043
IN10	Clinic has clarity of information on the diagnostic tests to be performed.	3.63	1.030
IN11	I feel great about the quality of interactions I have with the medical staff at the health clinic.	3.65	1.210
Personnel Quality			
PE1	Qualification of doctors to treat critical illness and deal with complex conditions.	3.75	1.006
PE2	Clinic has a specialist and a qualified doctor.	3.65	1.001

PE3	Clinic has the expertise and skill of a nurses.	3.70	0.992
PE4	Clinic has the expertise and skill of a medical staff.	3.65	1.027
PE5	Clinic has the expertise and skill of administrative staff.	3.60	1.008
PE6	Clinic has a doctors who have trust in the treatment process.	3.80	0.939
PE7	Clinic has services, functioning and administration are credible.	3.85	0.949
PE8	Clinic offers services on time as promised.	3.45	1.131
PE9	Clinic having patients' best interest at heart.	3.55	0.986
PE10	Clinic has a doctors who have various different specializations.	3.73	0.905
PE11	I feel great about the quality of the health clinic staff.	3.78	1.050

Table 3. Patient Satisfaction and Patient Loyalty

No.	Items	Means	Standard Deviation
Patient Satisfaction			
SA1	I am calm with the healthcare from this health clinic	3.73	1.012
SA2	I feel comfortable about visiting this clinic whenever I need any medication	3.58	1.174
SA3	I have a very high regard for the superior health service provided	3.68	0.997
SA4	Overall I am satisfied with this clinic service	3.68	0.971
Patient Loyalty			
LO1	I am talking positive things to other people about this clinic	3.70	1.043
LO2	I recommend this clinic to other individuals	3.63	1.102
LO3	I encourage friends and relatives to get treatment for this clinic	3.58	1.035
LO4	I will receive more treatment with this clinic in the future	3.55	1.061

However, several academic scientists and professionals who knew about the service quality in the health sector and methods for improving procedures examined a draft survey questionnaire. On the basis of their comments and suggestions, several slight changes were made. This has strengthened the validity for the service quality in healthcare context of the survey instruments.

3.2. Instrument Reliability and Validity

A pilot test was conducted through an online survey and hardcopy survey administered through Google Form to provide the patient with 50 samples of questionnaires. There have been 50 collections of actual questionnaires.

Table 4. Reliability Test

No.	Constructs	Mean	Standard Deviation	Cronbach's Alpha
1	Infrastructure Quality	3.7675	0.70942	0.935
2	Procedural Quality	3.3925	0.84774	0.932
3	Interaction Quality	3.6205	0.99817	0.980
4	Personnel Quality	3.6818	0.89878	0.976
5	Patient Satisfaction	3.6625	0.98311	0.959
6	Patient Loyalty	3.6125	0.99832	0.957

3.3. Data Collection

In this analysis, the key data from 50 patients receiving care in a health clinic were obtained based upon an investigative method. This research was carried out in quantitative way as a preliminary pilot test. The data collection in Melaka, Malaysia has been distributed.

4. Results and Discussion

Around 50 respondents received questionnaires that predict patient satisfaction during health clinical influence on patient loyalty for descriptive analyses and reliability testing using IBM SPSS version 23. Table 5 summarizes respondents ' characteristics.

Table 5. Characteristics of Respondents

Characteristics	Items	Frequency	Percentage
Gender	Male	15	30
	Female	35	70
Age	Below 30	33	66
	30 - 49	13	26
	Above 50	4	8
Marital Status	Single	20	40
	Married	25	50
	Others	5	10
Race	Malay	41	82
	Chinese	5	10
	Indian	4	8
	Others	0	0
Education Level	Uneducated	1	2
	SRP / PMR	1	2
	SPM	6	12
	STPM/Certificate/Diploma	16	32
	Degree & Above	26	52
Current employment status	Employed	30	60
	Unemployed	7	14
	Student	9	18
	Retired	4	8
Monthly Income (MYR)	Below 1500	20	40
	1500 – 2000	13	26
	2000 – 2500	9	18
	2500 – 3000	2	4
	Above 3000	6	12
Purpose of visiting clinic	Follow up treatment	16	32
	Newly referred case	18	36
	Others	16	32
Health clinic district	Melaka Tengah	34	68
	Alor Gajah	10	20
	Jasin	6	12
Overall health service	Very Good	11	22
	Good	14	28
	Fair	11	22
	Bad	13	26
	Very Bad	1	2

On the basis of the [44] analysis the reliability index is perfectly suitable and the best figure should be 0.70 by the Cronbach's alpha value. Tables 4 shows that every construct is accepted by the results of the reliability test. The survey provides a fundamental understanding of the construct questionnaires as a pilot study. This study therefore showed descriptive results of analysis and reliability tests.

5. Conclusion

Clearly, 50 respondents in the health clinic were surveyed on the basis of this preliminary study. The significance analysis for all constructed variables was determined by this analysis. All constructed variables are significant more than 0.70 and also claimed by (45). This study produced a

pilot test-based results. Therefore, further analysis should be made of the real data and of future studies.

Acknowledgments

References

1. Arab M, Marzban S, Pouragha B, Daneshkohan A, Zarei E. An Empirical Study of the Impact of Service Quality on Patient Satisfaction in Private Hospitals, Iran. Glob. J. Health Sci., 2015, 7(1): 36–44.
2. Anvari M V. Clinical Staff Communication, Medical Errors, and Patient Satisfaction: A Correlational and Comparative Study. PhD thesis, Arizona: University of Phoenix, 2018;
3. Swain S, Kar NC. Hospital service quality as antecedent of patient satisfaction – A conceptual framework. Int. J. Pharm. Healthc. Mark., 2018, 12(3): 251–269.
4. Aziati AHN, Hamdan NSB. Application of queuing theory model and simulation to patient flow at the outpatient department. International Conference on Industrial Engineering and Operations Management, 2018, 3016-3028.
5. Liddy C, Poulin PA, Hunter Z, Smyth C, Keely E. Patient perspectives on wait times and the impact on their life: A waiting room survey in a chronic pain clinic. Scand. J. Pain., 2017, 17: 53–57.
6. Hassan H, Rahman MS, Sade AB. Contemporary Healthcare Experience in Malaysian Hospitals. J. Appl. Bus. Econ., 2015, 17(4): 89–94.
7. Ariffin F, Azraii AB, Kamaruddin KN. An assessment of patient waiting and consultation time in a primary healthcare clinic. Malaysian Fam. physician Off. J. Acad. Fam. Physicians Malaysia, 2017, 12(1): 14–21.
8. Musa H, Taib MSBM, Li SCH, Jabar J, Khalid FA. Drop-shipping supply chain: The characteristics of SMES towards adopting it. Soc. Sci., 2016, 11(11): 2856–2863.
9. Abas ZA, Ramli MR, Desa MI, Saleh N, Hanafiah AN, Aziz N, et al. A supply model for nurse workforce projection in Malaysia. Health Care Manag. Sci., 2018, 21(4): 573–586.
10. Lucas A, Edwards M. Development of Crisis Resource Management Skills: A Literature Review. Clin. Simul. Nurs., 2017, 13(8): 347–358.
11. Jacoby J, Kyner DB. Brand loyalty vs. repeat purchasing behavior. J. Mark Res., 1973, 10(1): 1–9.
12. Agustin N, Hernawati S, Viphindrartin S. Effects of Service Quality on Word of Mouth through Satisfaction in Outpatient at Sakinah Islamic Hospital in Mojokerto Regency. Heal. Notions., 2018, 2(3): 311–315.
13. Fatima T, Malik SA, Shabbir A. Hospital healthcare service quality, patient satisfaction and loyalty: An investigation in context of private healthcare systems. Int. J. Qual. Reliab. Manag., 2018, 35(6): 1195–1214.
14. Buttle F. SERVQUAL: Review, critique, research agenda. Eur. J. Mark., 1996, 30(1): 8–32.
15. Singh B, Singhi R. SERVQUAL impact on overall satisfaction and brand loyalty: An empirical study in Delhi-NCR hospitals. Int. J. Healthc. Technol. Manag., 2018, 17(1): 49–60.
16. Meesala A, Paul J. Service quality, consumer satisfaction and loyalty in hospitals: Thinking for the future. J. Retail. Consum. Serv., 2018, 40: 261–269.
17. Aliman NK, Mohamad WN. Linking Service Quality, Patients' Satisfaction and Behavioral Intentions: An Investigation on Private Healthcare in Malaysia. Soc. Behav. Sci., 2016, 224: 141–148.
18. Ahmed S, Tarique KM, Arif I. Service quality, patient satisfaction and loyalty in the Bangladesh healthcare sector. Int. J. Health Care Qual. Assur., 2017, 30(5): 477–488.
19. Subrahmanyam A. Relationship between service quality, satisfaction, motivation and loyalty: A multi-dimensional perspective. Qual. Assur. Educ., 2017, 25(2): 171–188.
20. Yacob Y, Ali JK, Baptist CJ, Nadzir HM, Morshidi MH. How Far Members' Satisfaction Mediated Members' Loyalty? Investigating Credit Cooperative in Sarawak Borneo. Procedia - Soc. Behav. Sci., 2016, 224: 376–383.

21. Kasiri LA, Guan Cheng KT, Sambasivan M, Sidin SM. Integration of standardization and customization: Impact on service quality, customer satisfaction, and loyalty. J. Retail. Consum. Serv., 2017, 35: 91–97.

22. Gursoy D, Chi CG. The Routledge Handbook of Destination Marketing. 2018, Abingdon: Routledge.

23. Padma P, Rajendran C, Lokachari PS. Service quality and its impact on customer satisfaction in Indian hospitals: Perspectives of patients and their attendants. Benchmarking An Int. J., 2010, 17(6): 807–841.

24. Shabbir A, Alam Malik S, Yusaf Janjua S. Equating the expected and perceived service quality A comparison between public and private healthcare service providers. Int. J. Qual. Reliab. Manag., 2017, 34(8): 1295-1317.

25. Pinna M, Del Chiappa G, Atzeni M. Emotions and satisfaction at the hospital: A comparison between public and private health providers in Italy. Int. J. Pharm. Healthc. Mark., 2018, 12(2): 126–145.

26. Ahmadi A. Thai Airways: Key influencing factors on customers' word of mouth. Int. J. Qual. Reliab. Manag., 2019, 36(1): 40-57.

27. Kessler DP, Mylod D. Does patient satisfaction affect patient loyalty? Int. J. Health Care Qual. Assur., 2011, 24(4): 266–273.

28. Rosenbusch J, Ismail IR, Ringle CM. The agony of choice for medical tourists: A patient satisfaction index model. J. Hosp. Tour. Technol., 2018, 9(3): 267–279.

29. Musa H, Azmi FR, Khalid FA, Yunus AR. Analysing the adoption of malaysian standards (MS) on SME performances: The mediating effects of innovation adoption factors. Int. Conf. Ind. Eng. Oper Manag., 2016, 976–984.

30. Ghofranipour F, Ghaffarifar S, Ahmadi F, Hosseinzadeh H, Akbarzadeh A. Improving interns' patient–physician communication skills: Application of self-efficacy theory, a pilot study. Cogent Psychol., 2018, 5(1): 1–13.

31. Polese F, Vesci M, Troisi O, Grimaldi M. Reconceptualizing TQM in service ecosystems: An integrated framework. Int. J. Qual. Serv. Sci., 2019, 11(1): 104-126.

32. Shabbir A, Malik SA, Malik SA. Measuring patients' healthcare service quality perceptions, satisfaction, and loyalty in public and private sector hospitals in Pakistan. Int. J. Qual. Reliab. Manag., 2016, 33(5): 538–557.

33. Bhatnagar SB, Mishra JK, Syed AA. Customer disloyalty in retail banking services: Attitudinal and behavioural dimensions. Asia-Pacific J. Bus. Adm., 2019, 11(1): 46-67.

34. Coetzee A, Coetzee J. Service quality and attitudinal loyalty: The mediating effect of delight on retail banking relationships. Glob. Bus. Econ. Rev., 2019, 21(1): 120–138.

35. Swain S. Do patients really perceive better quality of service in private hospitals than public hospitals in India? Benchmarking., 2019, 26(2): 590–613.

36. Swain S, Kar NC. Hospital service quality as antecedent of patient satisfaction – A conceptual framework. Int. J. Pharm. Healthc. Mark., 2018, 12(3): 251–269.

37. Johnson DM, Russell RS, White SW. Perceptions of care quality and the effect on patient satisfaction. Int. J. Qual. Reliab. Manag., 2016, 33(8): 1202–1229.

38. PAI YP, Chary ST. Measuring patient-perceived hospital service quality: A conceptual framework. Int. J. Health Care Qual. Assur., 2016, 29(3): 300–323.

39. Lee D, Kim KK. Assessing healthcare service quality: A comparative study of patient treatment types. Int. J. Qual. Innov., 2017, 3(1): 1–15.

40. Campos DF, Filho RBN, Castro FN. Service quality in public health clinics: Perceptions of users and health professionals. Int. J. Health Care Qual. Assur., 2017, 30(8): 680–692.

41. Anabila P, Anome J, Kumi DK. Assessing service quality in Ghana's public hospitals: Evidence from Greater Accra and Ashanti Regions. Total Qual. Manag. Bus. Excell., 2018, 2018: 1–13.

42. Pai YP, Chary ST, Pai RY. Patient-perceived hospital service quality: An empirical assessment. Int. J. Health Care Qual. Assur., 2018, 31(1): 76–91.

43. Likert R, Roslow S, Murphy G. A Simple and Reliable Method of Scoring the Thurstone Attitude Scales. J. Soc. Psychol., 1934, 5(2): 228–238.

44. Taber KS. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. Res. Sci. Educ., 2018, 48(6): 1273–1296.

45. Hasim MA, Jabar J, Murad MA. A preliminary research on consumer acceptance in nanofood towards purchase intention: A pilot research. Int. J. Recent Technol. Eng., 2019, 8(2 Special Issue 3): 352–356.