

RESEARCH ARTICLE

Received on: 12/06/2015

Accepted on: 05/08/2015

Published on: 20/08/2015

Corresponding Author

Abdelsalam Adam Hamid

Assistance Professor
(Marketing), College of Business
Studies, Sudan University of
Science and Technology, Sudan
University of Science and
Technology, Sudan.

E-mail : alsalamq@yahoo.com



QR Code for Mobile users

Conflict of Interest: None Declared !

Interaction effect of perceived service quality and brand image on customer satisfaction

Abdelsalam Adam Hamid¹, Siddig Balal Ibrahim², Abdelmonim Shawgi Seesy³, Abdel Hafiez Ali Hasaballah⁴

¹ Assistance Professor (Marketing), College of Business Studies, Sudan University of Science and Technology, Sudan University of Science and Technology, Sudan.

² Ph.D. Student. Sudan University of Science and Technology, Sudan.

³ Associate Professor (Marketing) Qassim University, Buraydah 52571, Saudi Arabia

⁴ Associate Professor (Marketing), College of Business Studies, Sudan University of Science and Technology, Sudan University of Science and Technology, Sudan.

ABSTRACT

Service quality has received considerable attention in academic perspective today's backed by the complexities and Interaction of providing service Therefore this study seek to determine the interaction effect of service quality and brand image on satisfaction of Sudanese private healthcare customer. A survey was conducted among 450 patients in Makah eyes hospitals to measure service quality of the private healthcare setting in Sudan using SERVQUAL 5 dimensions model by Parasuraman *et al* (1985). The results showed that perception quality in Sudanese Health sector consists of three dimensions (tangibles, responsiveness and empathy). In addition the results indicated that the interaction effect of service quality variables and brand image is a positive influenced customer satisfaction. thus, result of this study can help health care providers and managers to have deep understanding about how patients' perceived service quality.

Keywords: Perception, SERVQUAL, customer satisfaction, brand image

Introduction

Customer satisfaction has been regarded a fundamental determinant of long-term business success, It is widely accepted that satisfied consumers are not concerned on price, less influenced by competitors attack and loyal to the firm longer than dissatisfied customers (Dimitriades, 2006). Therefore Practitioners and academics are under pressure to find healthcare systems that satisfy the different stakeholders (patients, providers, practitioners, and insurers). Healthcare organizations are under pressure Laws emphasizing patients' rights to a good care interfere with cutting costs and insurance system pressures. Therefore, the emerging question is 'How to satisfy patients, provide service quality and maximize profit under limited resources in a competitive environment?. The pressures from powerful insurance institutions and the politics of minimizing costs lead the Sudanese healthcare services providers to valorize quantity (examined patients) to service quality detriment. Such situations seem to deeply affect medical practices and perceived quality (Elleuch, 2008).

Service quality is considered an important determinant of competitiveness. Service quality may lead organization to differentiate itself from other organizations and gain a competitive advantage. Superior service quality is a key to enhance

profitability (Ghobadian et al., 1994). The intangible nature of services has obstructed the advancement of the area of service quality. Whereas manufactured products are amenable to sampling, gauging and measurement of various types, services are less. (Jannadi and al-Saggaf, (2000).

Service quality is one of the important factors affecting consumer decisions. Therefore, there is a connection between service quality and behavioral intention (Brady et al., 2002).for attain satisfaction can be a complex and risky process. Roles in meeting service by service personnel and consumers contribute to it. In the same way that customer satisfaction quite hard to find, and dissatisfied customers is also quite elusive creature. While one should understand the extent of customer satisfaction (i.e. how much customers are satisfied), may be more important to understand the underlying reason for satisfaction / dissatisfaction the response to a satisfying experience contains elements of both emotional and behavioral. Thus customer satisfactions contributing in make positive emotional states. (Mudie and Pirrie 1993).

Measuring quality in healthcare has a number of benefits for consumers; it allows them to make informed decisions regarding practitioner and provider selection. Healthcare providers also benefit from examining quality (Strawderman, 2005). They

are able to identify areas that need improvement within their system (Self and Sherer, 1996; Yasin and Green, 1995). Healthcare providers can be considered as having good credibility – something that consumers will never be able to effectively evaluate owing to a lack of medical knowledge (Bloom and Reeve, 1990). Given healthcare's credence, patients are likely to look for cues or "signals" that are redolent of the quality of treatment they are likely to receive (or not receive) from a provider. Office aesthetics, staff appearance, relationships between patients and doctors and the punctuality of appointments, among others details, may be medical care quality indicators. These service quality surrogate indicators can be used by patients to assess service provider efficaciousness (Lian and Suki., 2011).

Keller (1993) defined Brand image: "perceptions about a brand as refer to any brand aspect within the consumer memory "lee, lee,wu. (2011) and defined customer satisfaction as the "customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations". Anand Kumar Jaiswal (2008) the purpose of this study was to investigate of the perception service quality and examine the Interaction effect of service quality, brand image on customer satisfaction when seeking treatment in private healthcare settings in the Sudan.

Despite the many studies that covered the relationship between quality of service and customer satisfaction (Ehigie, Megan Taylor, (2009); caruana (2002); Baker (2000); Fatma(2014); Lo, Mahamad, Ramayah, Mosahab, (2010)) , however it was only in developed countries, and these studies did not cover the interaction between the quality of service and the brand and its impact on customer satisfaction. This study will contribute knowledge to the theory and practice of service quality, brand image and customer satisfaction particularly for medical firms. Its theoretical significance will add more insights compared to previous empirical studies done in this area, especially on the issue of service quality, For policy makers as medical institutions, this study provides a framework on the determinants of service quality , brand image and satisfaction in developing countries.

LITERATURE REVIEW;

The relationship between Perceived service quality and customer satisfaction;

Evidence indicates that perceived quality is the most important factors influencing consumer satisfaction, which in turn, affects patients' intentions to use the products and services in the future (Zeithaml, 1988). Therefore, considering patients' perceptions of the quality of service is of critical importance. Although different attempts have been made to measure the quality of services, but there is no one acceptable approach on how this concept should be measured. The Servqual approach to the measurement of service quality has attracted considerable attention in recent

years (Sangeetha& S. Mahalingam (2011); Brown & Bond (1995) ;Padma, Rajendran&L. PrakashSai (2009); wong&Amriksohal (2003); parasuraman, zeithaml& Berry (1988); V. EmreOzdemir and Kelly H (2010); Valarie A. Zeithaml, Leonard L. Berry& A. Parasuraman (1996).). This approach starts from the assumption that the level of service quality experienced by customers is critically determined by the gap between their expectations of the service and their perception of what they actually receive from a specific service provider (Zeithaml et al., 1990).

Underpinning our understanding of service quality is a combination of factors or determinants. A number of researchers have provided lists of quality determinants, but the best known determinants stems from Parasuraman and colleagues from the USA, who originate five dimensions of service quality: tangibles, reliability, responsiveness, assurance and empathy and used these as the basis for their service quality measurement instrument, SERVQUAL (Parasuraman et al., 1988; Zeithaml et al., 1990). The result was the development of the SERVQUAL instrument, based on the gap model. The central idea in this model is that service quality is a function of the difference scores or gaps between expectations and perceptions.

Perception is defined as the process of noticing and making sense of information. Perceived quality is osteopathic consumer judgment with respect to superiority of the performance of the service (Zeithaml, 2000). Thus, perceptions and provide basic measurement tool to assess the attractiveness of the individuals and / or desire for the product or service. Because of the characteristics of credibility inherent in the purchase of the hospital service, and quality of service at the hospital is, perceptions and boycotted the perceptual purely predictable kind of response (either support or resistance) customers give service providers, each of which has different impact on the Company and / or market gains share (Ndubisi, 2004). A customer's perception of value and satisfaction begins with an initial purchase and continues throughout the actual ownership and the overall service experience. in spite of of whether the perception is positive or negative, a customer's thoughts and desires will influence what the company provides as it strives to maintain a healthy relationship with its customers. This relationship can be built on trust, confidence, and customer loyalty towards the company, providing the company continues to satisfy or exceed the customers' expectations. Perceptions refer to the consumers' provided service evaluation. When perceived performance levels are lower than expectations, this is a sign of quality lack; the reverse indicates good quality (Lim and Tang, 2000). quality is conceptualized in service literature measured by SERVQUAL, as perceived quality. Perceived quality is a global judgment, or attitude rating regarding the service. perceived quality involves the subjective response of people and is therefore highly realistic. It

is a form of attitude, related but not equivalent to satisfaction, and results from the compared of expectation with perceptions of performance (Parasuraman et al., 1988).

The relationship between brand image and customer satisfaction;

Liao (2012) focusing on the leisure activities how to improve customer’s loyalty has become a key strategy for service management. concluded that the service quality, brand image and customer satisfaction of leisure business have a direct relation with loyalty, and the service quality has an indirect effect on loyalty through customer satisfaction, from another perspective Abd-El-Salam, Shawky and El-Nahas (2013) studied the relationship among corporate image and reputation, service quality, customer satisfaction and customer loyalty through a case analysis on the biggest Egyptian company. The study have shown significant relationships among the variables under investigation.

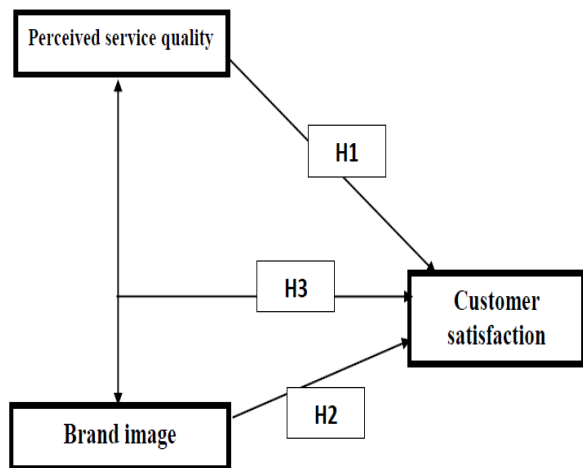
Hypotheses

Through previous studies have founded a positive relationship between quality of service and customer satisfaction(aliman, mohammed 2013, Ihtiyara, Ahmadb, Barotoc. 2013, zamil and Areiqat 2012), also founded a positive relationship between brand image and customer satisfaction (Malik, Ghafoor, Iqbal 2012, Abd-El-Salam, Shawky and El-Nahas 2013) But there is no study to the interaction effect of perceived service quality and brand image on customer satisfaction. Based on the above argument the following hypotheses are developed:

H1. There is a significant relationship between perceived service quality variables and customer satisfaction

H2. There is a significant relationship between brand image and customer satisfaction

H3 There is a significant relationship between interaction (perception service quality * brand image) and customer satisfaction.



METHODOLOGY

Service quality can be measured with the SERVQUAL model, which was first proposed by Parasuraman et al. in, 1988. Service quality, based on the gap model developed by Parasuraman et al. (1985, 1986, 1988, 1991, 1993, and 1994), is very similar to the disconfirmation theory. the questionnaire was distributed in 8 branches of Makah hospitals in Sudan through the quota sampling (Khartoum 36.5 % , Omdurman 22% , port Sudan 6.5% , nyala 3% , madani 11% , al kalakla 14% , Dmazin 3% , kassala 4% .by external volunteers,And used the descriptive method.

All the responses except on the company’s profile were elicited on a 5 points scale, 1=strongly disagree 5=strongly agree. Likert scale had been chosen for its clarity and ease of use Formatting of the questionnaire includes the conversion of the research objectives into information required to obtain the necessary output of the questionnaire. All the research constructs in this study had been converted into the relevant questions and clearly stated. . Therefore, the instrument requires translation to Arabic languages.

In the process, the instrument was revised by Professors from the School of management, university Khartoum and Sudan. Moreover, to be sure that the questionnaire will be clear for the respondents, three doctors were requested to review the wording of the questionnaire. The final version of the instrument was simplified by erasing or replacing some questions to reduce the time required in answering the questionnaire.

The response rate, a total of 450 questionnaires were distributed to the respondents. Therefore, the customers of Makah Hospital were asked in sample of population to fill the questionnaires, A total of 400 questionnaires were return to researcher. The overall response rate was 90%, and this high response rate due to the questionnaires was given one by one and face to face to the respondents, and as well as, the questionnaire was distributed by volunteers (Sekaran, 2003).

FINDINGS

The good of validity: Validity of Perceptions service Quality

The result shows that the items for perceived quality loaded on three component/ factor with eigenvalues exceeding 1.0. These three factors explain 64.97% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factor of perceived quality is responsiveness’ captures nine items. And The second factor of perceived quality is empathy captures four items Thus there is some items merged together , and The third factor of perceived quality is tangibles captures three items However, the name of this factor will be tangibles.

As shown in Table 4.4, factor loading perceived quality items present in three factors ranged from 0.541 to

0.857. Thus, this study found that perceived quality in Sudanese Health sector consists of three factors,

Table 1:

Rotated Factor Loading for perceived quality variables

Items No:	Components		
	1	2	3
Responsiveness'			
You can trust employees of (BIF).	.857	.055	.249
(BIF) does not have operating hours convenient to all their customers.	.787	.237	.201
Employees of (BIF) are polite.	.755	.140	.294
You feel safe in your transaction with (BIF) employees.	.687	.233	.259
You don't receive prompt service from (BIF) employees.	.669	.405	.148
Employees of (BIF) are too busy to respond to customer request promptly.	.657	.399	.168
When you have problems, (BIF) is sympathetic and reassuring.	.637	.368	.188
(BIF) is dependable.	.552	.467	.336
(BIF) does not tell customers exactly when services will be performed.	.541	.377	.352
Empathy			
Employees of (BIF) do not give personal attention.	.065	.830	.110
(BIF) provides its service at the time it promises to do so.	.375	.658	.181
Employees get adequate support from (BIF) to do their jobs well.	.356	.599	.310
(BIF) does not give you individual attention.	.499	.573	.183
Tangibles			
(BIF) employees are well dressed and appear neat.	.245	.069	.810
(BIF) physical facilities are visually appealing.	.251	.208	.783
The appearance of the physical facilities of (BIF) is in keeping with the type of services provided.	.247	.408	.645
Total Variance Explained (%)	64.97		
Kaiser-Meyer-Olkin (KMO)	.923		
Bartlett's Test of Sphericity	3003.57		

Validity of Brand Image Variables

The result shows that the items for brand image loaded on one component/factor with eigenvalues exceeding 1.0. These three factors explain 63.29% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with

value of cross loading less than .50. The first factors of brand image is captures ten items out of ten merged., However, the name of this factor will as its. As shown in Table 2 factor loading brand image items present in one factors ranged from 0.73 to 0.85. Thus, this study found brand image in Sudanese health sector consists of one factor.

Variables	Factor 1
(BIF) provides an excellent service to customers.	.851
(BIF) is sincere to the customers.	.838
(BIF) is a successful Organization.	.826
(BIF) is honest	.814
(BIF) is familiar to the customer satisfaction.	.810
(BIF) makes a lot of contribution to the society.	.790
(BIF) is a large-scale Organization.	.764
(BIF) has a good reputation.	.761
(BIF) reliable Organization.	.757
(BIF) has a superior technology in health.	.736
Variance explained	63.29
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.935
Bartlett's Test of Sphericity	2391.71

Table 2 Factor analysis of brand image

Factor Analysis of Customer Satisfaction Variables

The result shows that the items for customer satisfaction loaded on one component/factor with eigenvalues exceeding 1.0. These three factors explain 70.74% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factors of customer satisfaction is captures ten items out of ten merged., However, the name of this factor will as its.

As shown in Table 3 factor loading customer satisfaction items present in one factors ranged from 0.61 to 0.91. Thus, this study found customer satisfaction in Sudanese health sector consists of one factor.

Table 3 Factor analysis of customer satisfaction

Variables	Factor 1
I am pleased that I purchased the services from the hospital.	.912
I feel good about my decision to purchase the hospital services.	.902
My decision to purchase services from hospital was a wise one	.878
Overall satisfaction with hospital	.862
This hospital has met our expectations	.615
Variance explained	70.74
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.861
Bartlett's Test of Sphericity	1212.19

4.4 Reliability:

Reliability is an assessment of consistency degree between multiple variables measurements (Hair et al., 2010). To test reliability this study used Cronbach's alpha as a diagnostic measure, which assesses the consistency of entire scale, since being the most widely used measure. According to Hair et al. (2010), the lower limit for Cronbach's alpha is 0.70, although it may decrease to 0.60 in exploratory research. While Nunnally (1978) considered Cronbach's alpha values greater than 0.60 are to be taken as reliable.

The results of the reliability analysis summarized in Table 4 confirmed that all the scales display satisfactory level of reliability (Cronbach's alpha exceed the minimum value of 0.60). Therefore, it can be concluded that the measures have acceptable level of reliability.

Table 4 Reliability

Construct	Variable	Cronbach's alpha	Mean	Standard Deviation
Perceptions Quality	Responsiveness'	.919	1.72	.626
	Empathy	.790	1.75	.660
	Tangibles	.770	1.68	.648
Brand image	Brand image	.935	1.55	.570
Customer Satisfaction	Customer Satisfaction	.848	1.61	.713

4.5 Correlation Analysis

Table 5 shows the interaction between service quality and brand image (tangibles*brand image, responsiveness*brand image, empathy*brand image) is positively and significantly correlated with customer satisfaction.

Table 5. Person's Correlation Coefficient for All Variables

Variables	Responsiveness* Brand	Empathy* Brand	Tangibles* Brand	Customer satisfaction
Responsiveness* Brand	1.00			
Empathy* Brand	.903**	1.00		
Tangibles* Brand	.894**	.855**	1.00	
Customer satisfaction	.772**	.768**	.710**	1.00

** p < .01 * p < .05

The Relationship between service quality and Customer Satisfaction

The results of the hierarchical regression equation testing the influence of the Service Quality variables (Perceptions) variables on Customer Satisfaction. However, the result shows that the model is significant. In addition the results show that all the four component of Service Quality variables is a positive significantly influenced Customer Satisfaction the results showed that the hypothesis was supported, i.e. there is a positive relationship between Service Quality Variables (Perceptions) Variables and Customer Satisfaction

Service Quality variables (Perceptions) and customer Satisfaction (*Beta coefficient*)

Variables	Customer satisfaction	Sig
Responsiveness	.536	.000
Empathy	.305	.000
Tangibles	.003	.946
R ²	.631	
Adjusted R ²	.628	
Δ R ²	.631	
F change	197.76	

Note: Level of significant: *p<0.10, **p<0.05, ***p<0.000

The Relationship between Brand Image and Customer Satisfaction

The results of the hierarchical regression equation testing the influence of the Relationship between Customer Satisfaction and brand image

The results also showed that Customer Satisfaction have a high significant effect on customer satisfaction (β=0.935, p<0.000), , These results support hypotheses of the relationship between Brand Image and Customer Satisfaction Therefore, these results provide support for the assertion that the Brand Image does lead to the creation of customer satisfaction .

Table (4.48) Brand Image and Customer Satisfaction (Beta coefficient)

Variables	Customer Satisfaction	Sig
Brand Image	.800	.000
R ²	.640.	
Adjusted R ²	.639	
Δ R ²	.640.	
F change	613.94	

Note: Level of significant: *p<0.10, **p<0.05, ***p<0

The Relationship between the interaction Service Quality variables and brand image on Customer satisfaction

The results of the hierarchical regression equation testing the influence of the Service Quality variables (perceptions) variables on Customer satisfaction. However, the result shows that the model is significant. In addition the results show that the interacted component of Service Quality variables and Brand image is a positive significantly influenced Customer satisfaction the results showed that the hypothesis was supported i.e. there is a positive relationship between Interaction of Service Quality Variables (Perceptions) Variables with Brand Image and Customer satisfaction

Variables	Customer satisfaction	Sig
Responsiveness* Brand	.553	.000
Empathy* Brand	.528	.000
Tangibles* Brand	-.098	.18
R ²	.721.	
Adjusted R ²	.715	
Δ R ²	.721.	
F change	126.382	

Note: Level of significant: *p<0.10, **p<0.05, ***p<0

Discussion and Conclusions:

The results of the reliability analysis confirmed that all the scales display satisfactory level of reliability (Cronbach’s alpha exceed the minimum value of 0.60). Therefore, it can be concluded that the measures have acceptable level of reliability. Shows the means and standard deviations of the three dimensions of service quality variables: tangibles, responsiveness’, empathy, The table below reveal that service quality variables emphasized more on tangibles, followed by responsiveness, and then Empathy, Given that the scale used a 5-point scale (1= strongly agree, 5= strongly disagree), it can be concluded that Makah Hospitals have high Level of service quality above the average mean. This finding is consistent with the previous research (karydis, kodvazeniti, hatzigeiousndpanis (2001)).

This study found brand image in Sudanese health sector consists of one factor, and study found customer satisfaction in Sudanese health sector consists of one factor. This finding is consistent with the previous research. (Liao (2012), Abd-El-Salam, Shawky and El-Nahas (2013)).

The results of this study show that the Makah Hospital have well known and accepted brand image , the results of this study show that the customers of Makah Hospital are very satisfied, Adoption, Liao (2012), Abd-El-Salam, Shawkyand El-Nahas (2013)).

The results of the hierarchical regression equation testing the influence of the service quality variables on customer satisfaction, however, the result shows that the model is significant. In addition the results show that all the three component of service quality variables is a positive significantly influenced customer satisfaction the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables and customer satisfaction , The results also showed that responsiveness have the most significant effect on customer satisfaction, and empathy have the significant effect on Customer Satisfaction, followed by tangibles, Therefore, these results provide support for the assertion that the service quality variables partially does lead to the creation of customer satisfaction. These results consistent with previous studies (aliman, mohammed 2013, zamil and Areiqat 2012).

The results of the hierarchical regression equation testing the influence of the relationship between brand image and customer satisfaction Therefore, these results provide support for the assertion that the brand image does lead to the creation of customer satisfaction. These results consistent with previous studies (Malik, Ghafoor, Iqbal 2012, Abd-El-Salam, Shawky and El-Nahas 2013).

The results of the hierarchical regression equation testing the influence of the service quality variables (perceptions) variables on Customer satisfaction, however, the result shows that the model is significant. In addition the results show that the Interacted component of service quality variables and brand image is a positive significantly influenced customer satisfaction The results showed that the hypothesis was supported, i.e. there is a positive relationship between Interaction of service quality variables with brand image and customer satisfaction The results also showed that percept interaction of responsiveness* brand have the most significant effect on customer, and followed by empathy* brand, followed by tangibles* brand.

Previous studies covered the relationship between the variables (service quality, brand image, customer satisfaction, and customer loyalty) but did not cover any study of the interaction between service quality and brand image and its impact on customer satisfaction.

Conclusions:

The results of this study strengthen the importance of patients’ perceived service quality in healthcare services. The findings of this study can help health care providers and managers to have deep understanding about how patients’ perceived service quality. Managers of health services need to carefully

inspect the different quality dimensions of service delivery and their interactions with use satisfaction for several reasons. As well as the departments of hospitals to develop a mechanism to communicate with patients and surveyed after their service is completed and returning to home and because some patients conceal feelings and opinions, especially if they express dissatisfaction, fearing abuse by medical and nursing personnel at hospitals & that achieves two benefits a) See the real situation of quality of service provided.) Also, in the event of consent by the patient satisfaction, it creates depth and in the absence of consent to mitigate the impact of discontent and identifies the areas of deficiency in service which reflects the mental image of the hospital and mitigate the impact of the low level of service.

Furthermore, the researcher suggests that the hospital set a special service center for tracing patients' condition and actively inform them of any medical checkup or subsequent consultation via the phone or email. For some departments with a higher visiting rate,

Generally, our study demonstrates that Sudanese healthcare providers ought to take into account patient needs. Providers are encouraged to build long-term relationships with patients if they want to maintain their viability. Evolution in micro- and macro-levels seems necessary to avoid an unsolvable 'breakdown' of Sudanese medical services.

It would be recommended to future researchers that this type of survey be conducted on a larger scale to assist all private healthcare providers to deliver better service to their customers. It would be beneficial if all private healthcare providers would participate and help facilitate and expand the research scope.

References

1. Abd-El-Salam E, M.Shawky A, Y and El-Nahas (2013). The impact of corporate image and reputation on service quality, customer satisfaction and customer loyalty: testing the mediating role. Case analysis in an international service company, *The Business & Management Review*, Vol.3
2. Aliman N,K& Mohamad W, N (2013) ; Perceptions of Service Quality and Behavioral Intentions: A Mediation Effect of Patient Satisfaction in the Private Health Care in Malaysia , *International Journal of Marketing Studies*; Vol. 5, No. 4.
3. AmiraElleuch (2008): Healthcare service quality perception in Japan, emerald group publishing limited
4. Bell Simon J. and Andreas B. Eisingerich (2007), the paradox of customer education Customer expertise and loyalty in the financial services industry, *European Journal of Marketing* Vol. 41 No. 5/6, pp. 466-486
5. Bloom, P.N. and Reeve, T. (1990), "Transmitting signals to consumers for competitive advantage", *Business Horizons*, Vol. 33, July-August, pp. 58-66.
6. Camerana M, Moizerb P and PettinicchioA,c (2010) "Customer satisfaction, corporate image, and service quality in professional services" *The Service Industries Journal*Vol. 30, No. 3, March 2010, 421-435.
7. Ghobadian, A. and Speller, S. (1994), "Service quality: concepts and models", *International Journal of Quality & Reliability Management*, Vol. 11 No. 9, pp. 43-66.
8. Hossain Muhammad Jaber and Islam Md. Anwarul (2012) : Understanding perceived service quality and satisfaction A study of Dhaka University Library Bangladesh, *performance Measurement and Metrics* Vol. 13 No. 3, 2012 pp. 169-182
9. Brown S, W,Hubbert A, R., Sehorn A, G, (1995) "Service expectations: the consumer versus the provider", *International Journal of Service Industry Management*, Vol. 6 No. 1, 1995, pp. 6-21.
10. Anand,K, J. (2008),"Customer satisfaction and service quality measurement in Indian call centres", *Managing Service Quality*, Vol. 18 Iss: 4 pp. 405- 416
11. Jani Dev, Han Heesup (2014); Personality, satisfaction, image, ambience, and loyalty: Testing their relationships in the hotel industry,*International Journal of Hospitality Management* 37 11- 20.
12. Jannadi O, A., Al-Saggaf. H, (2000),"Measurement of quality in Saudi Arabian service industry", *International Journal of Quality & Reliability Management*, Vol. 17 Iss: 9 pp. 949 - 966.
13. karydis A , komboli,k, oand panisvassilis(2001) ; expectations and perceptions of greek patients regarding the quality of dental health care , international society for quality in health care and oxford university press.
14. Lee,H, M . Lee, C, C. Wu,C, C. (2011): "Brand image strategy affects brand equity after M&A", *European Journal of Marketing*, Vol. 45 Iss: 7/8, pp.1091 - 1111.
15. Li Shyh-Jane & Huang Yu-Ying & M. Yang Miles (2010) how satisfaction modifies the strength of the influence of perceived service quality on behavioral intentions, *Leadership in Health Services* Vol. 24 No. 2, 2011pp. 91-105.
16. Liao Kun-Hsi (2012) .The Casual Effects of Service Quality, Brand Image, Customer Satisfaction on Customer Loyalty in the Leisure Resort Enterprise, China-USA *Business Review*, ISSN 1537-1514, Vol. 11, No. 5, 631-642
17. Lim, P.C. and Tang, N.K.H. (2000), "A study of patients' expectations and satisfaction in Singapore hospitals", *International Journal of Health Care Quality Assurance*, Vol. 13 No. 7, pp. 290-9.
18. Malik, Ghafoor and Iqbal (2012). Impact of Brand Image, Service Quality and price on customer satisfaction in Pakistan Telecommunication sector, *International Journal of Business and Social Science* Vol. 3 No. 23;
19. Ndubisi, N. O. (2004). Services marketing: are perceptions of service quality predictors of behavioral intentions? The banking industry perspective. *Journal of Commercial Banking and Finance*, 3(1), 25-38.
20. Nekoei, M, M and esmaili, MrA. (2011): Hospital services quality assessmentHospitals of Kerman University of MedicalSciences, as a tangible example of adevelopingcountry, *International Journal of Health Care Quality Assurance* Vol. 24 No. 1, 2011pp. 57-66.
21. Orel F, D, AliKara (2014). Supermarket self-checkout service quality, customer satisfaction, and loyalty: Empirical evidence from an emerging market, *Journal of Retailing and Consumer Services* 21 118-129.
22. Ozdemir V. Emre and Hewett Kelly (2010) "The Effect of Collectivism on the Importance of Relationship Quality and Service Quality for Behavioral Intentions: A Cross-National and Cross-Contextual Analysis" *Journal of International Marketing*, American Marketing Association Vol. 18, No. 1, 2010, pp. 41-62.
23. Padma P, RajendranandLChandrase. Sai P; (2009)." A conceptual framework of service quality in healthcare Perspectives of Indian patients and their attendants "Benchmarking : An International Journal Vol. 16 No. 2, 2009 pp. 157-191
24. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988), "SERVQUAL: A Multiple-Item Scale For Measuring Consumer Perceptions Of Service Quality", *Journal Of Retailing*, spring, Volume 64, Number 1, pp. 12-40.
25. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, pp. 41-50.

26. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64, pp. 12-40.
27. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1991), "Refinement and reassessment of the SERVQUAL scale", *Journal of Retailing*, Vol. 67 No. 4, pp. 420-50.
28. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994), "Reassessment of expectations as a comparison standard in measuring service quality: implications for future research", *Journal of Marketing*, Vol. 58, January, pp. 111-24.
29. Mudie, P and Pirrie, A. (1993) *The Management and Marketing of Services Library of Congress Cataloguing in Publication Data* pp. 266-273.
30. Ravichandran, Mani, Kumar and Prabhakaran (2010). Influence of Service Quality on Customer Satisfaction Application of Servqual Model. *International Journal of Business and Management* Vol. 5, No. 4, 119
31. Sangeetha J & Mahalingam S. (2011): "Service quality models in banking: a review", *International Journal of Islamic and Middle Eastern Finance and Management* Vol. 4 No. 1, 2011 pp. 83-103.
32. Self, D.R. and Sherer, R. (1996), "Quality measures in healthcare", *Health Marketing Quarterly*, Vol. 13 No. 4, pp. 3-15.
33. Sivadas Eugene and Baker-Prewitt Jamie L.: 'An examination of the relationship between service quality, customer satisfaction, and store loyalty' *International Journal of Retail & Distribution Management* Volume 28. Number 2 .2000. 73±82.
34. Strawderman, L. (2005), "Human factors for consideration in quality service metrics for healthcare delivery", unpublished doctoral dissertation, The Pennsylvania State University, University Park, PA.
35. Suki, N, M. Lian, and J, Ch.Mohd, S, N. (2011): Do patients' perceptions exceed their expectations in private healthcare settings? *International Journal of Health Care Quality Assurance* Vol. 24 No. 1, 2011 pp. 42-56
36. Wong A, Amriks. (2003): "service quality and customer loyalty perspectives on two levels of retail relationships". *Journal of services marketing*. vol 17 no 5 pp 495-513.
37. Yasin, M.M. and Green, R.F. (1995), "A strategic approach to service quality: a field study in rural healthcare setting", *Health Marketing Quarterly*, Vol. 13 No. 1, pp. 75-85.
38. Zamil A, M, Areiqat A, Y (The Impact of Health Service Quality on Patients' Satisfaction over Private and Public Hospitals in Jordan: A Comparative Study, *International Journal of Marketing Studies* Vol. 4, No. 1
39. Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990), *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, The Free Press, a division of Macmillan, Inc., New York.
40. Zeithaml, V.A. (1988), "Consumer perceptions of price, quality and value: a means end model and synthesis of evidence", *Journal of Marketing*, Vol. 52, pp. 35-48.
41. Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1993), "The nature and determinants of customer expectations of service", *Journal of the Academy of Marketing Science*, Vol. 21, pp. 1-12.
42. Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996), "The behavioral consequences of service quality", *Journal of Marketing*, Vol. 60, pp. 31-46.
43. Zhou Lianxi, (2004), "A dimension-specific analysis of performance-only measurement of service quality and satisfaction in China's retail banking", *Journal of Services Marketing*, Vol. 18 Iss: 7 pp. 534 - 546
44. Benjamin O, E. Taylor M. (2009), "Managing students' loyalty to school after graduation through relationship marketing", *The TQM Journal*, Vol. 21 Iss: 5 pp. 502 - 516
45. Albert caruana (2002): "service loyalty the effect of service quality and the mediating role of customer satisfaction" , *European journal of marketing* vol 36 pp 811- 828
46. Lo Liang K, Osman M, T. Ramayah, Rahim M, (2010): "The Impact of Service Quality on Customer Loyalty: A Study of Banks in Penang, Malaysia". *International Journal of Marketing Studies* Vol. 2, No. 2; November.
47. Dimitriades, Z. S. (2006). Customer satisfaction, loyalty and commitment in service organizations : Some evidence from Greece. *Management Research News*, 29(12),782-800.
48. Ali Ihtiyara, , Fauziah Sh. Ahmadb, and Mas Bambang Baroto. (2013) Impact of Intercultural Competence on Service Reliability and Customer Satisfaction in the Grocery Retailing *Social and Behavioral Sciences* 99 (2013) 373 - 381
49. Brady, M.K., Cronin, J.J., Brand, R.R., 2002. Performance-only measurement of service quality: a replication and extension. *Journal of Business Research* 55 (1), 17-31

Cite this article as:

Abdelsalam Adam Hamid, Siddig Balal Ibrahim, Abdelmonim Shawgi Seesy, Abdel Hafiez Ali Hasaballah. Interaction effect of perceived service quality and brand image on customer satisfaction. *Asian Journal of Management Sciences*, 03(10), 2015, 1-8.