

Co-Creation of E-Service in Malaysian Higher Education: Towards Enhancing E-Service Quality

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Abstract: Though e-service quality is applicable in different sectors, the focus of this study is on its adoption within the higher educational institutions in Malaysia. More importantly, the study narrows the higher educational institutions to public own universities in the country. Although there are many researches focusing on quality of service in e-commerce, there seem to be inadequate of study in co-creation of e-service in higher education towards enhancing their service delivery. In view of this, the nexus between e-service quality and co-creation within the higher educational context that would be examined.

Key words: E-Service Quality • Co-creation • Students' satisfaction and loyalty • Malaysian Higher Education

INTRODUCTION

Service quality is the main factor to ensure the continuous patronage from the service users. It has been discussed in several literatures that the influence of service quality towards improving the relationship between service provider and their customers cannot be over emphasized [1,2]. As a result of the quality derived from the particular services, customer patronage has always been based on such mutuality. It is a known fact that customer prefer constant usage of a product that satisfaction is ensured. However, over the past decade there has been a growing body of work focusing on conceptualizing, measuring and managing service quality and its effects in electronic environments [3]. E-service quality is essential for the good performance of electronic channels [4] and determining factor of customer loyalty by offering better service quality through online service.

Considering the educational sector, the phenomenon of e-service quality as one of the major determinants of competitiveness among different universities in the world [5,6,7]. The online services have grown rapidly and have emerged as the leading edge of the service industry. The fact remains that technological advancement which has created the innovation of e-services such as e-learning and some other relevant modern sophisticated way of impacting knowledge, places institutions, most especially higher institutions to become global and access to information become easier [8].

However, the ranking of tertiary institution cannot be completed without emphasizing the usefulness, application and adoption of electronic mode of learning in various higher institutions. As a matter of fact, student patronage and enrollment to institution of learning has been subjected to level of technological equipment available for students in enhancing much better academic learning environment [9,10,11].

The idea of students pushing to be admitted in a well computerized and systemic school of learning could be seen in the concept of co-creation. As it is known that co-creation is a terminology implying willingness of customer patronizing a product due to satisfaction derived from the particular commodity. This implies to services rendered to people in which the beneficiaries keep requesting for the availability of the services.

Problem Statements: In any competitive business environments, it has always been increased demand which also calls for wider supply or making provision for availability of the products. The rational for establishing higher institutions is to train individuals for better productivity in the society. But such training is not achievable without moving in the direction of information technological know how as requested and entrenched in the modern and global arena. This scenario is what institutions of learning have to contend with and the environment beyond the academic territory also needed. With this, the need for

improved e - service quality that would enhance student's capability is justified [8]. In order to gain relevance, institutions are ranked, recognized and valued nowadays on the efficacy of technological improvement and innovations sustained by different academic environments [12].

As rightly observed by [13], higher education institutions over the world specifically in Malaysia have had an impact on the delivery of educational services, how institutions operate and at the same time increased their organizational performance. This increment in the organizational performance with the aid of improved e-service in higher institution can enhance the possibility of co-creation among the customers and in this case the students. With the growing number of higher institutions, this can be a challenge to an institution to meet the demands [14]. The innovation of e-service and the quality provided can be the determinant to retain or attracting more students.

However, according to [4], the issue of satisfaction of e-service quality in higher education has been one of the main discussions globally.

The importance of adopting e-service in any organization either private or public is to boost the efficiency and effectiveness which invariably can serve as motivating factor for customer's patronage. The effect of e-service in influencing decision of customer behavior cannot be over emphasized. It easily propels and facilitates further request for a particular service which has been one of the major interest of co-creation [15,16]. The benefit one derives from using a product satisfactorily can easily motivate constant usage of services. In as much as the idea of co-creation revolves around customer further patronage of goods and services, the efficacy of e-service can ensure same in any organizational or institutional setting.

However, the studies about co-creation have been rapidly growing since a decade ago, but much of the researches focus on the creation and management of online communities [17]. And it has been justified that the integrative knowledge of the co-creation is lacking in aspect of e service quality [18]. The focus here is to explore the possibilities and how students prefer certain higher educational institutions over another due to the provision of e-service towards facilitating better learning and academic exercise. Given this, this study hopes to do an in-depth exploration into the relevance of co-creation utility as a result of e-service in Malaysian higher educational institutions. In essence, the focus would center more on the usefulness and relevance of e-service quality towards enhancement of co-creation in Malaysian public universities.

Given this lack of knowledge, the current study extends the rapidly growing research stream on customer participation in online service co-creation. The dimension of e-service quality is another significant area that needs to be elaborated in justifying or otherwise the satisfaction of customer or user's demand. The argument here is that there are some fundamental attributes, which are the dimension of achieving efficiency, value and productivity with the use of e-service in any organizational structure. The dimensions are the expected results that the application and use of e-service should guarantee. It is on this note that certain measurement and mechanism are needed to be examined in order to justify the need and significant use of e-service in any institution [19].

The customer's response to service satisfaction is necessary and significant in the business world, the students in the higher institutions play the customers' role in determining the possibility of co-creating due to competitiveness in the modern tertiary schools of learning. Despite the fact that virtually most public universities in Malaysia embrace e-service, the quality derived varies and which leads to comparison in terms of the differences of on line services provided by various higher institutions.

Research Objectives:

- To examine the effect of e-service quality on co-creation in the higher education
- To explore the relevance of e-service quality on higher educational system in Malaysia
- To study the role of e-service quality in the modern tertiary institutions in Malaysia
- To investigate the possibility of e-service quality towards students patronage of higher institution in Malaysia

Literature Review: E-service quality and satisfaction in higher education

In the most competitive business environment nowadays, most scholars agree that achieving customer satisfaction is important [20,21,22] and attract more loyal customer [23]. [24] has defined e-service quality as overall customer assessment and judgments in relation to the excellence and the quality of e-service delivery in the virtual marketplace. While [25] defined e-service quality as the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery of products and services. But in the context of higher education, as defined by [8] e-service quality refer to better quality assurance of online service such as e-learning, where the

educators and trainers, professional, researchers and expertise providers are focusing their attention on e-service wholly.

However, the idea of customers' satisfaction has been simplified by [26] when he reaffirms that the degree of participation of customers determine the level of production of service delivery. This position is supported by [27] that one cannot talk of co-production in the absence of customers' participation which can be easily ascertained through satisfaction derived or enjoy from a given product or service. The main point here is the relevance of customer participation vis-à-vis customers' satisfaction. Utilizing the higher educational system to justify the contention, student preference for e-service can serve as a basis for their satisfaction and which can enhance participation as obtained in co-production.

Similarly, the issue of customer satisfaction has also been regarded as a pre-requisite for customer loyalty as satisfied customer is likely to be loyal [28]. Although the synergy of customers' satisfaction and customers' loyalty has been contested [29], one cannot ignore the essential role of the influencing factor. This is not correlated with the educational setting whereby students-lecturers relationship is created from satisfaction and loyalty [30,31,32,33]. The more students benefit from academic and moral guidance from the lecturers, the higher satisfaction students acquire which invariably influenced their loyalty to the lecturers. To narrow the scenario to e-service quality within the tertiary institutions, students can be easily maintained their loyalty to the service provided as they derived satisfaction from the service and service provider [34,35,36,37].

The impact of e-service quality towards customer loyalty is considered important because of positive effect on long-term profitability and improving their satisfaction [38]. As a result of the services co-created by the customers, it is vital to sustain the service at the top quality. Furthermore, students' satisfaction are very influential in determine the rating of university as an excellent education provider [39].

Co-Creation of E-Service: One important outcome in the increased of consumer empowerment is consumers now desire to play a greater role in the process of value creation [40]. [16] state that the joint creation of value by the company and the customer, allowing the customer to co-construct the service experience to suit their context. [41] state the customers as value co-creators to account for the integration of customer-owned resources to aid in the co-creation process. Thus, a university governance can undertake strategies to achieve greater customer

loyalty and higher consumption of the service and acquire more customers [42] and take a step further in focusing on the joint creation where customers play an active role to achieve mutual benefits [43]. Therefore, customer can be part of the creation process to gain more product's satisfaction [44].

Co-Creation and Loyalty: The nexus between co-creation and loyalty is significant to the extent that the latter justifies the effectiveness of the former. However, the interrelationship has been well over flogged in the business enterprises particularly private organizations. It is argued that loyalty of the customers lies on the utility of the goods and services. Meanwhile, in the academic environment, the application of e- service and other form of information technology has really widened the scope of competitiveness of the tertiary institutions.

As rightly put by [45], the behavioral patterns of students can be positive to the extent that they remain identifying with their institution because of the services enjoyed while studying. Substantiating the positive behavioral patter of students, which corroborates loyalty, is the interest some students shown in any social networking that can bring them together even after completion of studies [46,47,48].

The loyalty, which is an offshoot of co-creation, has awaken social responsibility among the students, either alumni or active students and that is why participation increases in tertiary institutions where the e-service quality is commendable. In the work of [49], the commitment from consumers in repeating and patronizing same company represents the idea of loyalty. Customers tend to be more loyal, provided the services derived from a particular product, goods and services are appreciating. Purchasing power of the preferred services would increase as long as the satisfaction remains uncompromised. Co-creation adds new dynamic to the producer and customer relationship by engaging customers directly in the production or distribution of value [50,51].

In the work of [52], what is important in justifying customer loyalty to a particular product is centered on unique competitive strategy. This competitive and strategic pattern of winning customer loyalty has been embraced in the educational sector. To them, students enjoy certain services most especially e-service in tertiary educational setting due to the competitiveness as entrenched in the contemporary standard. In a nutshell, the argument of [53] is basically on competitive and strategic application of Information Technology in developing student interests towards particular

institutions. Invariably, the idea and concept of co-creation sets in which makes loyalty of the students in this context imperative.

In a similar vein, [53] consider students co-operation as a way of adding value to the universities. Meanwhile, it is a complimentary role towards improving the educational services. The situation simply reflect a loyal response from students by participating and contributing their quota to the sustainability of the institution. The main reflection here is to analyze and justify co-creation among students of higher institution of learning by encouraging their input in developmental policies targeted in consolidating and strengthening the academic environment. This is a form of reciprocal from a beneficiary trying to sustain the tempo in order to maintain and improve the educational standard of the concerned school of learning. In addition, co-creation has been viewed relatedly to loyalty by [16] using a customer activeness, creativity and social collaboration as linkage between producers and consumers. So the collaborative tendency is possible as a result of customers satisfactory.

Research Models: This study intended to use E-SERVQUAL model to evaluate the quality of online service provided by Malaysian Higher Institution.

E-SERVQUAL Model: As in traditional service quality model or SERVQUAL is focusing on customers' expectations and perceptions and comprised of five dimensions which can be defined as below;

- Tangibles: physical facilities, equipment and appearance of personnel
- Reliability: ability to perform service dependably and accurately
- Responsiveness: willingness to help customers and provide prompt service.
- Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: caring individualized attention provided by the firm to its customers.

But later, [25] E-S-QUAL developed dimensions of web sites that measured the quality level of service and their dimensions are as follows;

- Efficiency: Measures the usage of the site, access speed and facilitation.
- Fulfillment: Consists of the dimensions of the fulfillment of the goods and service executed and delivered by the site.

- System availability: Contains the appropriate technical functions of the site.
- Privacy: Involves the level of protection by the site in terms of security and customer information.

Certain deficiencies have been identified and [54] develop an e-service quality measure (e-SQ), consisting of five dimensions: (1) information availability; (2) ease of use; (3) privacy/security; (4) graphic style; and (5) reliability.

CONCLUSION

It has been noticed that co-creation is necessitated in a scenario where e-service quality ensures customers' satisfaction and loyalty. As stipulated earlier, patronage and consistency from consumers can be easily ascertained one's there is satisfactory derivation which can serve as motivating factor for further request of good and services. This has also been supported by the E-SERVQUAL model showcasing customers' perception and expectation. The former triggers reliability of a given service while the later justifies customers' feeling which invariably determines customers' attitude and behavior. Thus, the target within tertiary institution has always been the students who play the role of customers in the academic community. What actually influences students' choice to peculiar higher institutions is the efficiency and efficacy of e-service quality delivered for their benefits towards achieving primary goals.

REFERENCES

1. Abidin, A.H.Z. and A.R. Romle, 2007. Emerging technology for enhancing service quality: PDA's as your devices in mobile internet banking environment, *The Journal of Global Business Management*, 2(3): 75-82.
2. Romle, A.R. and A.S. Shamsudin, 2008. Kualiti perkhidmatan berdasarkan perspektif pelajar di institusi pengajian tinggi awam Malaysia, *Jurnal Pengurusan Awam*, 7(1): 99-108.
3. Carlson, J. and A. O'Cass, 2011. Developing a framework for understanding e-service quality, its antecedents, consequences and mediators. *Managing Service Quality: An International Journal*, 21(3): 264-286.
4. Barrutia, J.M. and A. Gilsanz, 2009. E-Service Quality: overview and research agenda. *International Journal of Quality and Service Sciences*, 1(1): 29-50.

5. Romle, A.R. and A.S. Shamsudin, 2007. Amalan pengurusan dan kepuasan kerja: Realiti atau ilusi, *Jurnal Pengurusan Awam*, 6(1): 71-89.
6. Romle, A.R. and A.S. Shamsudin, 2006. The relationship between management practices and job satisfaction: The case of assistant registrar at public institutions of higher learning in Northern Region Malaysia, *The Journal of Human Resource and Adult Learning*, 2(2): 72-80.
7. Ishak, Y. and A.R. Romle, 2015. The mediating effect of job satisfaction on the link between leadership style and organizational commitment, *Australian Journal of Basic and Applied Sciences*, 9(4): 45-49.
8. Kim-Soon, N., A. Rahman and M. Ahmed, 2014. E-Service Quality in Higher Education and Frequency of Use of the Service. *International Education Studies*, 7(3): 1-10.
9. Kamal, M.K.A. and A.R. Romle, 2015. Framing on leadership styles and job performance in Malaysia: A new direction, *Australian Journal of Basic and Applied Sciences*, 9(4): 69-73.
10. Saberi, N. and A.R. Romle, 2015. The implementation of TQM with service quality from students perspective in Malaysian public university, *Australian Journal of Basic and Applied Sciences*, 9(4): 50-56.
11. Romle, A.R., R.C. Razak and A.S. Shamsudin, 2015. Mapping the relationships between quality management practices, human-oriented elements and organizational performance: A proposed framework, *International Journal of Innovation, Management and Technology*, 6(3): 196-201.
12. Simões, C. and A.M. Soares, 2010. Applying to higher education: information sources and choice factors. *Studies in Higher Education*, 35(4): 371-389.
13. Romle, A.R., 2014. An Examination of Quality Management Practices, Human-Oriented Elements and Organizational Performance in the Malaysian Higher Education Institutions. *Universiti Utara Malaysia, Sintok*.
14. Chalcraft, D., T. Hilton and T. Hughes, 2015. Customer, collaborator or co-creator? What is the role of the student in a changing higher education servicescape?. *Journal of marketing for higher education*, 25(1): 1-4.
15. Kristensson, P., J. Matthing and N. Johansson, 2008. Key strategies for the successful involvement of customers in the co-creation of new technology-based services. *International Journal of Service Industry Management*, 19(4): 474-491.
16. Prahalad, C.K. and V. Ramaswamy, 2004. Co-creating unique value with customers. *Strategy & leadership*, 32(3): 4-9.
17. Ind, N. and N. Coates, 2013. The meanings of co-creation. *European Business Review*, 25(1): 86-95.
18. Jaakkola, E., A. Helkkula and L. Aarikka-Stenroos, 2015. Service experience co-creation: conceptualization, implications and future research directions. *Journal of Service Management*, 26(2): 182-205.
19. Elsharnouby, T.H. and A.A. Mahrous, 2015. Customer participation in online co-creation experience: the role of e-service quality. *Journal of Research in Interactive Marketing*, 9(4): 313-336.
20. Chinomona, R. And M. Sandada, 2013. Service quality level as the determinant of consumer emotional loyalty and fantasy in South Africa's pick & pay chain stores. *Mediterranean Journal of Social Sciences*, 4(3): 579.
21. Hussein, M.I. and R.A. El Aziz, 2013. Investigating e-banking service quality in one of Egypt's banks: a stakeholder analysis. *The TQM Journal*, 25(5): 557-576.
22. Wang, M., 2003. Assessment of e-service quality via e-satisfaction in e-commerce globalization. *EJISDC: The Electronic Journal on Information Systems in Developing Countries*, (11), 10.
23. Chen, S.C., 2012. The customer satisfaction-loyalty relation in an interactive e-service setting: The mediators. *Journal of Retailing and Consumer Services*, 19(2): 202-210.
24. Santos, J., 2003. E-service quality: a model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, 13(3): 233-246.
25. Simões, C. and A.M. Soares, 2010. Applying to higher education: Information sources and choice factors. *Studies in Higher Education*, 35(4): 371-389.
26. Parasuraman, A., V.A. Zeithaml and A. Malhotra, 2005. ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3): 213-233.
27. Dabholkar, P.A., 2015. How to improve perceived service quality by increasing customer participation. In *Proceedings of the 1990 Academy of Marketing Science (AMS) Annual Conference* (pp: 483-487). Springer International Publishing.
27. Prebensen, N.K., H.L. Kim and M. Uysal, 2015. Co-creation as moderator between the experience value and satisfaction relationship. *Journal of Travel Research*, pp: 1-12.

28. Abdinnour-Helm, S.F., B.S. Chaparro and S.M. Farmer, 2005. Using the end-user computing satisfaction (EUCS) instrument to measure satisfaction with a web site. *Decision Sciences*, 36: 341-364.
29. Oliver, R.L., 1999. Whence consumer loyalty? *Journal of Marketing*, 63: 33-44.
30. Hassan, A.I. and A.R. Romle, 2015. Intrinsic factors of job satisfaction among lecturers of Bauchi State Univeristy Gadau, Nigeria, *International Journal of Administration and Governance*, 1(4): 87-91.
31. Husin, N.K.M., A.R. Romle and M.S.M. Yusof, 2015. Toward a greater understanding of how service quality drives students satisfaction in higher learning institutions, *International Journal of Administration and Governance*, 1(4): 9-13.
32. Ismail, S., A.R. Romle and N.A. Azmar, 2015. The Impact of organizational culture on job satisfaction in higher education institution, *International Journal of Administration and Governance*, 1(4): 14-19.
33. Ahmad, N.H.A., A.R. Romle and M.H. Mansor, 2015. Exploring service quality and customer satisfaction at library in Malaysia university, *International Journal of Administration and Governance*, 1(4): 98-105.
34. Saberi, N., A.R. Romle and S.N.I. Hamid, 2015. Proposing the relationship between TQM and service quality in public university: A framework, *International Journal of Administration and Governance*, 1(4): 111-115.
35. Shagari, A.U., A.R. Romle and M.M. Qader, 2015. Examining the relationships between quality assurance, training need and choice of study destination: A study of Nigerian students in UUM, *International Journal of Economics and Financial Issues*, 5(1): 1-6.
36. Embi, M.S.C., M.M. Udin, A.R. Romle and P.A.N. Nasri, 2015. The impact of satisfaction on the link of motivation and job performance in public sector, *Journal of Applied Sciences Research*, 11(18): 19-23.
37. Isa, N.H.M., M.M. Udin, A.R. Romle, S.Z.M. Zahid and M.S.C. Embi, 2015. Assessing the relationship between motivation and training on job performance in public sector, *Australian Journal of Basic and Applied Sciences*, 9(34): 246-253.
38. Ribbink, D., A.C.R. Van Riel, V. Liljander and S. Streukens, 2004. Comfort your online customer: quality, trust and loyalty on the internet. *Managing Service Quality: An International Journal*, 14(6): 446-456.
39. Wilkin, S. and M.S. Balaksrishnan, 2013. Assessing student satisfaction in transnational higher education, *International Journal of Educational Management*, 27(2): 143-156.
40. Hoyer, W.D., R. Chandy, M. Dorotic, M. Krafft, S.S. Singh, 2010. Consumer Co-Creation in New Product Development. *Journal of Service Research*, 13(3): 283-296.
41. Vargo, S.L. and R.F. Lusch, 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68: 1-17.
42. Petruzzellis, L. and S. Romanazzi, 2010. Educational value: how students choose university. *International Journal of Educational Management*, 24(2): 139-158.
43. Diaz-Méndez, M. and E. Gummesson, 2012. Value co-creation and university teaching quality: Consequences for the European Higher Education Area (EHEA). *Journal of Service Management*, 23(4): 571-592.
44. Cova, B., S. Pace and P. Skålén, 2015. Brand volunteering Value co-creation with unpaid consumers. *Marketing Theory*, 15(4): 465-485.
45. Giner, G.R. and A.P. Rillo, 2016. Structural equation modeling of co-creation and its influence on the student's satisfaction and loyalty towards university. *Journal of Computational and Applied Mathematics*, 291: 257-263.
46. Othman, N.A., A.R. Romle, M.M. Udin, P.A.N. Nasri and M.F. Zakaria, 2015. The effect of trust on the link of satisfaction and performance amongst public service servants: A framework, *Australian Journal of Basic and Applied Sciences*, 9(34): 222-227.
47. Saberi, N., A.R. Romle, S.A. Romli, N.K.M. Husin, Z.N.M. Husin and M.S. Abdullah, 2015. Applying TQM practices and service quality in higher education, *International Journal of Administration and Governance*, 1(14): 50-56.
48. Azidin, S.S., A.R. Romle, S. Othman, N.A. Yusof and S.M. Yusof, 2015. The implementation of performance appraisal system: Perceived fairness, employee satisfaction and organizational commitment, *International Journal of Administration and Governance*, 1(14): 115-119.
49. Auh, S., S.J. Bell, C. McLeod and E. Shih, 2007. Co-production and customer loyalty in Financial Services. *Journal of Retailing*, 83(3): 359-370.
50. Grisseemann, U.S. and N.E. Stokburger-Sauer, 2012. Customer co-creation of travel services: The role of company support and customer satisfaction with the co-creation performance. *Tourism Management*, 33(6): 1483-1492.

51. Kambil, A., G.B. Friesen and A. Sundaram, 1999. Co-creation: A new source of value. *Outlook Magazine*, 3(2): 23-29.
52. Hatch, M.J. and M. Schultz, 2010. Toward a theory of brand co-creation with implications for brand governance. *Journal of Brand Management*, 17(8): 590-604.
53. Giner, G.R. and O.P. Díaz, 2014. A Review of Co-Creation Process and the University Services. *Advances in Business Management: Towards Systemic Approach*, 210.
54. Zeithaml, V.A., A. Parasuraman and A. Malhotra, 2002. Service quality delivery through web sites: a critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4): 362-375.