

Organizational Stakeholders' Loyalty from Technology Utilization: Implication to Educational Management

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Abstract

Technology brings various opportunities in different aspects of education. The capacity of the institutions to become competitive and relevant is what most stakeholders expect from higher education institutions. This study aimed to assess the level of loyalty among students, employees and alumni/graduates from utilizing various technologies. The study utilized a quantitative descriptive type of research with 345 respondents. Result showed that the university is confident on its perceived quality of delivering education through the use of technology-based facilities. Employees have significantly higher level of satisfaction and assessment on service quality compared to alumni. Meanwhile, the group of alumni has significantly higher loyalty in terms of brand value. Brand trust is significantly related to customer satisfaction and brand value. Customer satisfaction is also related to perceived quality and service quality. The respondents with higher level of perceived quality are also those respondents with higher loyalty in terms of brand value. Results suggest that adding value to the positive experiences of the stakeholders using appropriate technology provides a healthy environment for communication that engages positive behaviour towards optimum customer loyalty from utilizing efficient and effective learning technologies. Implication of the findings to educational management is discussed on how school leaders may advance their educational services towards the attainment of organizational efficacy for 21st century as university of the future

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I. INTRODUCTION

Higher education institutions (HEIs) are being challenged by the continuous growth of technology and its opportunity provided for the students to learn in most effective and interactive manner. They are placing greater emphasis on the application of information and communication technology in delivering quality instruction and other related services to their stakeholders [1-3]. Educational organizations are trying its best to incorporate technology that will become suitable to the school environment with effective learning strategies [4]. HEIs bring people from various walks of life and set

the center stage to satisfy the needs of these people and interested parties to help them grow as an organization through establishing loyalty from the edge of technology.

The concept of organizational loyalty on this study faces three different perspectives from students, employees and alumni or the recent graduates which is expressed on how they experienced educational services with regard to brand trust, customer satisfaction, perceived quality, brand value and service quality [5]. It is always believed that loyalty is an important dimension of successful organization [6]. It measures how committed they are in fulfilling

the vision of the organization and how engaged the stakeholders in maintaining connections to actively participate in various learning activities from their meaningful experience in utilizing technology.

The ultimate goal of HEIs is to deliver vibrant learning experiences to clients most especially to the students and other relevant services to alumni. Adoption and integration of technology in education is no exemption where educational leaders are trying to establish a systematic approach to promote innovation through continuous improvement of its processes. In most developed countries, the application of information and community technology is considered as the core of their educational system [3], [8-11]. But for the developing nations like the Philippines as a third world country, most HEIs are having hard time to adapt high technologies available in the market due to limited financial resources and expertise of the human resources.

Technology utilization can be observed through the use of electronic device with Internet access within the classroom setting. The use of cyber space and electronic media are inseparable elements in delivering quality towards achieving greater heights in global atmosphere [12]. Teachers also need to have access to various computing devices and software to support the teaching and learning process; use of educational technology learning platforms; training and preparation for the use of technology for the delivery of instruction and other educational services and ICT-related professional lifelong learning activities as well as student development programs [13].

Training facilities are available and adequate for utilization and benefits of employees to strengthen and widen their expertise. Utilization of technology as a means of professional development for teachers and administrative personnel from support services provides various learning opportunities. They are expecting this to achieve with the help of the organization for them to serve their clients

effectively and efficiently using appropriate technology.

Application of relevant learning technologies in delivering quality instruction is an essential component of bringing closer the students to the world's realities [14-16]. The students expect to develop their skills as well as their knowledge of the discipline and attitude towards work. The curriculum is being strengthened and equipped with various learning activities through maximizing the utilization of technology in the classrooms, laboratories and even co-curricular activities.

Students along with the parents are now getting more demanding in the selection of HEIs. Offering online services to assist them in anyways provides unique close-to-home experience. Service quality is considered an important dimension of competitiveness [17-19]. Therefore, understanding what they want in securing quality education and services would give proper direction for the organization to manage the decision of the prospective clients. Ackerman and Schibrowsky [20] emphasized that it is important to find out what really matters to students, anticipate their needs and find ways to add value. Building strong relationships through determining the demands of the students provides insights for HEIs to offer relevant co-curricular activities. Giving unique learning experiences and value –added services has to be learned and practiced as part of the marketing strategies to retain and invite more customers. Wilson, Daniel and McDonald [21] noted that the significance of effective customer relationships as a key to customer value and shareholder value. Proper utilization of right information leads to high level of awareness among the employees to serve better the customers.

Satisfaction from the use of various school resources and interaction with employees to avail its services are some measures and evidence of perceived quality [17]. School environment plays an important element in making decision for the students to stay

or leave the institution. The fulfillment of the degree that satisfies their interest to pursue their studies makes a huge contribution for customer loyalty. Business organizations most especially the private entities are trying to win the loyalty of their customers. An evidence of loyalty is when the parents graduated from the same institution and their children as well as their grandchildren will still patronize the institution from basic education up to their post graduate level.

Brand loyalty as a component of corporate image is an important aspect of marketing side of the academic institutions. Gaining and maintaining brand loyalty is an essential component of continuing existence in a competitive world market [22]. Technology helps advance the brand information through awareness of various stakeholders from the social media. HEIs are taking advantage in the power of social networks to establish strong connections and relationship with the communities through staying relevant and giving information about the institutions' achievement and future direction. Making people aware of their brand would somehow enhance their market niche and market segment. Demand for the trust in quality education is very high and the playing field is very competitive. Getting higher reputation from the industries and other HEIs is vital element for QS world university ranking. The trust of the people in the brand is an essential component in building partnership to strengthen the capacity of the university for internationalization.

Finding the place in the world is very complicated if the organization will not consider the needs and demands of the stakeholders without sacrificing the quality being provided to the public. Student perception of the brand is also necessary in building reputation against the competitors in terms of price and value [23-28]. It provides certain level of opportunity for the higher education institutions to showcase their services as considered beyond expectation which makes that brand more appealing and enticing for the prospective students.

Many studies already conducted regarding assessment of technology utilization in higher education though its acceptability [29], readiness [30-31], availability [32], compliance [33] adoption or integration in online instruction [34] and as an instructional support [35]. Meanwhile, the concept of loyalty and technology has been used in several studies in establishing consumer brands [36-39]. However, there are limited studies and literature regarding how technology utilization can manifest in the loyalty of the students, employees and graduates to stay connected with the educational institution. This study aimed to compare the loyalty of students, employees and alumni in terms of trust, customer satisfaction, perceived quality, brand value and service quality from technology utilization and establish the relationship across these indicators.

II. METHODS

A. Research Design

The study utilized a quantitative descriptive type of research method. This is appropriate for the kind of data derived from the perspective of the respondents according to their experiences which describes the underlying situation and condition of the phenomenon [40].

B. Participants

The study is composed of has 346 randomly selected respondents from the group of employees (n=94, 27.16%); students (n=145, 41.9%) and alumni (n=107, 30.92%) from one institution of higher learning in the Philippines.

C. Instrument

A survey questionnaire was adapted from the concepts of Ejaz, Ahmed and Ahmad [5] and Ahmed, Rizwan, Ahmad and Haq [41] to determine the stakeholder Loyalty from the perspective of technology utilization using 5-point Likert rating scale from strongly agree to strongly disagree. It was also pilot-tested and obtained a Cronbach's alpha values of greater than 0.90 which implies that the

instrument used for the study has an excellent internal consistency.

Table 1. Result of Reliability Test

Stakeholder Technology utilization	Loyalty from	Cronbach's Alpha Value
Brand Trust		0.934
Customer Satisfaction		0.907
Perceived Quality		0.929
Brand Value		0.921
Service Quality		0.905

D. Procurement

The questionnaires were personally administered by the researcher to the employees, students and alumni for almost five (5) months from June-October 2019. They were informed regarding the purpose of the study. Only those participants who are willing to participate in the study were given the questionnaire. The participation to the study is purely voluntary. One-on-one interview was also facilitated to nine (9) respondents: three (3) employees, three (3) students and (3) alumni to verify the result of the survey.

E. Data Analysis

Weighted mean was the statistical tool used to describe the result of the survey. The data set of the study is normally distributed. Therefore, the study used parametric tests like Analysis of Variance to test the differences on Stakeholders' Loyalty and Pearson-r to test the relationship across the five (5) variables. The given scale was used to determine the extent of loyalty of the respondents: 4.50 - 5.00: Very High (VH); 3.50-4.49: High (H); 2.50-3.49: Moderate (M); 1.50 - 2.49: Low (L); 1.00-1.49: Very Low (VL).

III. RESULTS

Table 2 presents the comparison on Stakeholder Loyalty among the three groups of respondents.

Employees (4.58) have very high loyalty in terms of perceived quality as they will recommend this university to their friends and relatives because of quality while students and alumni are considered with high loyalty wherein their responses do not vary significantly. In addition, employees have higher loyalty in terms of their brand trust regarding the quality of education that this university provides compared to responses of the alumni (4.18) and students (4.25) but their responses do not vary significantly ($p > 0.05$). Alumni (4.28) have significantly higher loyalty in terms of still choosing this University no matter what the other institutions provide for the customers compared to the responses of employees (3.89) which is significantly lower ($p < 0.01$). In general, employees (4.25) have significantly higher response when they were asked if this university deserves their loyalty compared to the responses of students (3.98) and alumni (3.76) which is considered significantly lower ($p < 0.01$). The overall composite mean scores reveal that no significant difference exists on the responses of the three groups in terms of their loyalty ($p > 0.05$).

Table 3 presents the relationship across stakeholders' loyalty from technology utilization. Significant relationship exists between brand trust and the customer satisfaction and as well as brand value. Furthermore, those stakeholders with higher level of trust in the school brand, they have the tendency of having higher level of satisfaction and loyalty in brand value. Meanwhile, those respondents with higher level of loyalty as manifested in customer satisfaction have also possibility of having higher level of loyalty as indicated in perceived quality and service equality. Likewise for perceived quality is related to brand value.

IV. DISCUSSION

Technology plays an important role in every aspect of human activities and educational institutions are continually adapting to the changing landscape of teaching and learning process and pedagogies in

order to stay connected and relevant for the next generation of learners. The integration of Learning Management System has been widely accepted by majority of the HEIs due to its positive impact to the learning strategies and outcomes for specific courses. It cannot be considered applicable to certain professional courses which need laboratory instruction and simulation activities like in medical and health sciences, engineering and computing fields. There are also certain limitations that this facility cannot provide to the learners.

In the context of perceived quality in bringing technology to the students is considered a factor in providing them with necessary skills. There is no doubt on the quality of education that the HEI provides to its stakeholders.

“The university provided me the right education and training on how to develop technology skill that is relevant to future job placement.”[A2]

Table 2. Comparison on Stakeholders’ Loyalty from Technology Utilization

Stakeholders’ Loyalty	E	S	A	WM	f-value	p-value
Brand Trust: I trusted this university because it meets my expectation by providing effective learning technologies	4.47	4.25	4.18	4.30	.438	.701
Customer Satisfaction: I feel satisfied with the services rendered by the University through its continuous automation	4.30	4.15	3.73	4.06	15.852**	.000

Perceived Quality: I will recommend this University because of its quality education through technology-based facilities	4.58	4.49	4.48	4.51	.899	.408
Brand Value: I will still choose this University no matter what the other institutions provide for the customers in terms of ICT Service Quality: This university deserves my loyalty for providing efficient services which I benefit from utilization of communication technology	3.89	4.25	4.28	4.16	10.125**	.000
Composite Mean	4.31	4.25	4.15	4.24	.582	.721

Note: E-employee; S-Students; A-Alumni; WM – Weighted Mean; **Highly Significant at p-value<0.01

Table 3. Relationship Across Stakeholders’ Loyalty From Technology Utilization

	1	2	3	4	5
1. Brand Trust	1				
2. Customer	0.592(<	1			

omer		05)				
Satisfaction						
3. Perc	0.194(>. 05)	0.681(<. 05)	1			
eived Quality						
4. Bran	0.544(<. 05)	0.209(>. 05)	0.712(<. 05)	1		
d Value						
5. Serv	0.205(<. 05)	0.628(<. 05)	0.274(>. 05)	0.129(>. 05)	1	
ice Quality						

“The university brings technology in providing quality education from instruction to extra-curricular activities which contribute to the holistic development of skills, knowledge and character of the students.” [S1]

Brand trust is an important element of success among educational institutions on what the students felt and think when they come across with the name and logo of the university. Therefore, the University website is always updated and recent news about the achievement of the students, employees and alumni are being featured and highlighted. It adds value to the brand which also brings certain level of customer loyalty as a long term relationship goal which also serves as competitive edge in the midst of the changing landscape of the market and social environment among academic institutions. Building reputation of the educational institution might also help improve its visibility to the international market and foreign universities.

Dzimińska, Fijałkowska and Sułkowski [42] noted that no organization can endure without trust from the customers. One of the employees stated that:

“I believed on the continuous improvement of technological facilities of the university can support various quality assurance mechanisms such as program accreditation, ISO Certification, Autonomous Status and Centers of Excellence and Development.” [E2]

However, there are also teachers and administrative personnel who are stating their feelings of stress due to overload because of various quality assurance mechanisms where employees face the consequence where they need appropriate technology to assist them on doing these easily.

“There are times employees are already overloaded of work due to compliance on too many quality assurance mechanisms of the university. We need appropriate technology that will help us accomplish some documentary requirements that can be retrieved from only one database. A database management system can be of great help” [E5].

Although, they felt pressured about this issue, they still trusted the university and believed on its vision and objectives to provide quality to all stakeholders. Trust is one of the hardest quality attributes of the organization to establish and sustain to gain loyalty and reputation. Technology facilitates in maintaining long lasting relationship between and among employees and other interested parties through constant communication in email, social media, group chats and video chats. For academic institutions, they ensure the quality of inputs from delivery of instruction and services using learning technologies, qualification of teaching and non-teaching personnel are enhanced through online learning, the availability and functionality of physical plants and technological facilities are some of the manifestation of technology utilization aside from maintaining the essential elements of quality assurance mechanisms.

Dzimińska, Fijałkowska and Sułkowski [42] noted that faculty and admin staff as well as institutional reputation are key factors for survival and success. The trust obtained from graduates can translate in the enrolment to graduate school education of their siblings and children and even the grand children. By being connected with the parents of the current students and alumni helps the school to get strong support from the community. It is good to note that alumni have higher loyalty in terms of choosing the university where they graduated because of its reputation than the responses of employees and students. Establishing higher level of personal assistance to alumni expands the overall reach of the institution and the ability to offer more quality services that they need for employment and become productive to their present jobs.

Some employees are expressing their intention to transfer in the government offices or agencies because of the security of tenure and other benefits which cannot be offered to them by the private academic institution as well as the right compensation equivalent for their licenses. One of the interviewees answered:

“I always wanted to stay where I started because of the people I used to work with but I need to think of my future when it comes to my finances to support the needs of my family.” [E1]

“I am always open for any possibility of changing the workplace for greater opportunity to grow personally and professionally.” [E4]

Even though they have some thoughts of transferring to another workplace, employees have still significantly higher feeling of satisfaction with the services rendered by the university compared to the satisfaction level of alumni which is considered significantly lower. The university is devoting much of its resources in addressing the requirements of quality assurance mechanisms but focusing on how the customers will be more satisfied and more engaged and establishing brand loyalty is not yet being considered towards nurturing profitable customer relationship.

Satisfaction has something to do with the happiness of the employee along the way while providing key educational services to all stakeholders [43-48]. Maintaining a good working environment with available technological resources makes the employees more engaged in providing quality services to customers while showing genuine care and concern in the work setting. It also encourages positive behaviour that translates into high job performance and loyalty. The motivation it creates from developing positive attitude makes the employees more dedicated in fulfilling their duties and obligations to students.

Although majority of the employees in a visionary and aggressive academic institution has acquired a

lot of stressful moments but they considered it as a learning experience. Listening to the concerns and problems of the employees is one way of showing care to their needs. Providing them the right compensation and benefits help improve their self-esteem and morale.

Educational leaders provide proper direction from the implementation of its strategic plan on how to build strong connection with the stakeholders and retain the brand name of the academic institution in the minds of the customers [49] especially the students and alumni.

Reputation is an important aspect of brand value in institutional level [50-52]. The loyalty as a resulting component of trust may be relevant to the corporate image of the organization. The respondents believed on how the university built its reputation through various national and international quality assurance mechanisms, achieved various awards from different academic, cultural and sports competitions.

Universities are now very innovative and creative on how to become more attractive. Competition between private and public HEIs is very high in terms of attracting prospective students. Parents tend to become more practical due to some economic reasons. That is why, most parents choose to enroll their children in government educational institutions to avail free tuition fees which served as a great challenge among private HEIs in the Philippines. Thinking of different strategies on how to win the choices of the market needs serious planning and studying the needs and want of the customers [53,54].

The respondents believed on the quality provided by the university for its customers. The competitive advantage of the organization is being disseminated to make the people aware of its capacity to compete with other HEIs in the region and even in the entire country. The word of mouth in social media is one of the effective ways of marketing [55-56]. Customers recommend the university to their friends and relatives which is an evidence of loyalty.

The use of social media in various ways like in educational purposes [57] builds strong connection between the learning and social virtual interactions among teachers and students. It facilitates learning activities that promote higher engagement among students [58-60].

Many students really wanted to pursue their college education in private institutions. But due to economic reasons, they tend to enrol in public HEIs. Therefore, no matter how good the performance of the private institutions, the middle class to low income earners could not able to send their children to private HEIs unless they can get scholarship and financial assistance from the private individuals, politicians and government subsidy. The loyalty of students and alumni is still there because of the attachments to teachers and memories created with classmates and friends.

Relationship Across Organizational Loyalty From Technology Utilization

Customer experience with the use of technology has been an important aspect in doing business with the clients to showcase the uniqueness of the products and services against the competitors. The change of behaviour from a particular experience with the employees of academic institutions builds a strong foundation of long lasting relationship. An incomparable experience makes the customers delighted and stayed with the organization and shared happy memories with the co-employees that are being translated to customer satisfaction. Study of Ali et al. [17] revealed that customer service experience had positive and significant impact on consumer memories and loyalty intentions.

Implications to Educational Management

Findings of this study may be utilized in the establishment of customer relationship management or CRM on how to retain major stakeholders and clients through the application of available technological resources. Zablah, Bellenger and Johnston [61] described customer relationship

management in terms of its two (2) key sub-processes: knowledge and interaction management. Building a database of students, employees and alumni may help identify the demographic and psychographic profiles of these customers. Identifying customer requirements builds a certain level of commitment from the organization to provide specific educational services based on the needs of the clients. Learning to appreciate the differences of various stakeholders and the changes on technology, culture and society makes an institution prepared for the challenges that might encounter in the long-run. Customer retention and loyalty are still being considered part of the trend in marketing toward building relationships [62-65].

Customer relationship management has a complex concept where wider cooperation of majority of the work units need to be defined its processes as integrated system from [49]. It brings information to the educational leaders and policy makers regarding how the students will be better served from their given profile and characteristics. This is one way of building good relationships to retain and gain the loyalty of the customers [5], [66-68].

Connecting knowledge into practice makes the institution more successful in bringing valuable and more personal services to customers through creating positive interactions from the environment. There is a very limited studies conducted about customer relationship in the Philippines pertaining to higher education institutions. Some conducted studies are related to e-commerce [69] and tourism [70]. Therefore, adapting the concept of CRM to educational institutional can help them maintain the loyalty of their stakeholders.

Meanwhile, knowledge sharing is an important process in knowledge management in which HEIs could initiate to bring all together the experts of the organization to contribute ideas which will serve as the basis for continuous improvement. Introducing knowledge sharing platforms and management dashboards to the school operation could provide

latest information and updates coming from the customers and other stakeholders [71,72].

In addition, identifying the customer suggestions towards the improvement of the institution through the use of social media is one way of being proactive in addressing satisfaction. Sometimes customer experience is one of the methods being used to gauge the impact of the educational services. How the students assess the delivery of instruction as well as the performance of administrative staff during the course of their journey towards the end of their degree program in the university through exit interviews might help the institution improve its services. Having customer satisfaction survey mobile application could help assist the organization in identifying customer requirements regarding their feeling, thoughts and emotions attached to the services provided by the employees.

Establishing a feedback mechanism through social media or other online and web-based channel for communication would strengthen the relationship among students, parents and alumni with the educational institution. Constant communication with the customers may also help the organization build certain level of trust where the demands of the students can be properly and immediately addressed. One of the dimensions of gaining loyalty is the customer responsiveness which measures the quality and speed in communicating with the stakeholders. Talking with the customers may also build good relationship as a sign of support through listening and getting sensitive information and handling personal concerns of different stakeholders.

Introducing smart technologies in HEIs provides meaningful teaching and learning process between students and teachers as well as non-teaching personnel as support to perform effectively and efficiently their jobs. Smart classroom technology emphasizes enhanced learning experience with interactive blackboard and easy access to online resources [73-74]. Abstract concepts and

illustrations can be presented in an interactive and more engaging manner to encourage active participation of the learner. This is a time-saving technology where lecture notes written in the board can easily save and send to everyone. Students can make presentations as well and can be shared directly and can easily get feedback from the teacher.

Continuous training of the human resources is necessary to keep them up-to-date of the latest IT solutions that they can use to provide basic services to the students and other stakeholders. They could have the following resources like blogs, ebooks, audio books and webcasts so that they will be aware of various e-learning technologies.

Application of online technology in education through Learning Management System must also be capitalized to strengthen the capacity of the institution in bringing its resources to a wider network and establishing better opportunities to gain international students. Automation of school credentials and other requests may be filed and paid online to lessen the time of manual filing and the time of the alumni to be devoted in going to the University just to file for a request of their documents. Online enrolment is also suggested to minimize the effort of the department secretaries in entertaining students face-to-face.

The University may do some rebranding of the curricular offerings which can address the 21st century skills and respond to the demands of the industries. Reengineering of the curriculum as well as the degree programs which are futuristic, visionary and looking forward to the needs of the future jobs. Integrate more student development activities pertaining to the advantages and disadvantages on the use of smart technologies and how these can help them improve their technology skills to become job ready.

V. CONCLUSION

Technology has always been part of creating a meaningful experience for the stakeholders. Integrating appropriate information and communication technology in classroom setting and any learning environment contributes in the development and enhancement of knowledge, skills and values that geared towards positive behavior and engaging organizational loyalty.

Employees have significantly lower response on brand value where they have some thoughts of changing work environment if they will be given the opportunity. Furthermore, alumni have significantly lower customer satisfaction on the services rendered by the university which also reveals lower response if the university deserves their loyalty. Result suggests that those respondents with higher level of positive experience with the services of the university are also those with higher degree of loyalty.

Convenience is one of the objectives of utilizing technology in terms of communication, paying system, dissemination of information, enrolment process, and transfer of transfer. Technology brings the concept of loyalty on how people are engaged in various school learning and social activities and how they are looking for ways to participate without their physical presence.

Using artificial intelligence brings unique customer experience from the website which will assist the user in navigating important information or anything that they need to know about the school. It captures the attention of the customers every time they visit the school site that offers information they need.

It is always important for the educational institution to offer efficient services through the use of modern-day technology to become interactive and responsive to the needs of the students, alumni and even employees.

Having live-chat or chatbots feature is a good idea to have it in the website aside from having it separately

in the social media. This is a small chat window that allows visitors to ask questions interactively and real time. Having virtual assistance facilitates friendly, efficient and helpful ways to entertain visitors as a way of proving them the sincerity of the organization to provide quality services. It also builds trust and gains loyalty from the customers the next time they will visit again the school website.

Providing immediate feedback regarding the results of their major examination after a day or two may inform them about their performance. Facilitating online major exam may address this suggestion from the students. They can take the exam inside the classroom using mobile phones or other electronic gadgets to answer the short quiz or long exams. This may encourage students to determine the outcome of their efforts from studying and can still change their behavior towards the subject or course because they know their academic status.

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REFERENCES

- [1] Ghasemi, H., Farahani, A., & Mashatan, M. (2012). The Relationship between application of information, communication technology and organizational effectiveness in physical education departments of universities of Tehran. *International Journal of Academic Research in Business and Social Sciences*, 2(5), 238.
- [2] Patiar, A., Kensbock, S., Ma, E., & Cox, R. (2017). Information and communication technology–Enabled innovation: Application of the virtual field trip in hospitality education. *Journal of Hospitality & Tourism Education*, 29(3), 129-140.
- [3] Hashemy, S. A., Hayati, D., & Hashemy, Z. (2012). A survey of the application of information communication technology in

- education. *International Journal of Information and Education Technology*, 2(1), 57.
- [4] Brooks, A. (2017). *The Utilization of Education Technology in Higher Education* (Doctoral dissertation, Trident University International). ProQuest Dissertations Publishing.
- [5] Ejaz, R., Ahmed, M. A., & Ahmad, Z. (2013). Impact of CRM practices on customers' behaviors. *International Journal of Business and Management Invention*, 2(7), 79-88.
- [6] Maduranga, W. A. L. (2017). *Study on Impact of Relationship Marketing on Customer Loyalty: With Special Reference To Alucobond Product of JC Enterprises*. Sabaragamuwa University of Sri Lanka
- [7] Sarkar, S. (2012). The role of information and communication technology (ICT) in higher education for the 21st century. *Science*, 1(1), 30-41.
- [8] El-Masri, M., & Tarhini, A. (2017). Factors affecting the adoption of e-learning systems in Qatar and USA: Extending the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). *Educational Technology Research and Development*, 65(3), 743-763.
- [9] Mikre, F. (2011). The roles of information communication technologies in education: Review article with emphasis to the computer and internet. *Ethiopian Journal of Education and Sciences*, 6(2), 109-126.
- [10] Nye, B. D. (2015). Intelligent tutoring systems by and for the developing world: A review of trends and approaches for educational technology in a global context. *International Journal of Artificial Intelligence in Education*, 25(2), 177-203.
- [11] Ming-jie, L., & Jin-guo, Z. (2011, August). The application and development of Internet of Things with its solutions of restrictive factors. In 2011 International Conference on Mechatronic Science, Electric Engineering and Computer (MEC) (pp. 282-285). IEEE.
- [12] Ebily, Kh. & Movafaghi, H. (2004). *A Window to New Management concepts*, Tehran: Shiveh Publications, ch.5, pp.34-36.
- [13] Gray, L., Thomas, N. & Lewis, L. (2010). *Teachers' Use of Educational Technology in U.S. Public Schools: 2009*. Washington, DC: IES/NCES. url: <http://nces.ed.gov/pubs2010/2010040.pdf>
- [14] Aleven, V., McLaughlin, E. A., Glenn, R. A., & Koedinger, K. R. (2016). Instruction based on adaptive learning technologies. *Handbook of research on learning and instruction*, 522-560.
- [15] Farrell, T., & Rushby, N. (2016). Assessment and learning technologies: An overview. *British Journal of Educational Technology*, 47(1), 106-120.
- [16] Bower, M. (2016). Deriving a typology of Web 2.0 learning technologies. *British Journal of Educational Technology*, 47(4), 763-777.
- [17] Ali, F., Zhou, Y., Hussain, K., Nair, P. K., & Ragavan, N. A. (2016). Does higher education service quality effect student satisfaction, image and loyalty?. *Quality assurance in education*.
- [18] Ibrahim, N. (2018). The effect of services quality on brand loyalty of hormuud telecom. <http://dspace.library.daffodilvarsity.edu.bd:8080/handle/20.500.11948/2997>
- [19] Setó-Pamies, D. (2012). Customer loyalty to service providers: examining the role of service quality, customer satisfaction and trust. *Total Quality Management & Business Excellence*, 23(11-12), 1257-1271. <https://doi.org/10.1080/14783363.2012.669551>
- [20] Ackerman, R. & Schibrowsky, J. (2008). A Business Marketing Strategy Applied to Student Retention: A Higher Education Initiative, *J. College Student Retention*, 9(3) 307-336. <https://doi.org/10.2190/CS.9.3.d>
- [21] Wilson, H., Daniel, E., & McDonald, M. (2002). Factors for success in customer relationship management (CRM)

- systems. *Journal of marketing management*, 18(1-2), 193-219. <https://doi.org/10.1362/0267257022775918>
- [22] Pratiwi, D. M. (2015). The Influence of Brand Image, Brand Trust And Customer Satisfaction On Brand Loyalty (Case Of Samsung Smartphone). *Jurnal Berkala Ilmiah Efisiensi*, 15(5).
- [23] Amini, A., Darani, M., Afshani, M., & Amini, Z. (2012). Effectiveness of marketing strategies and corporate image on brand equity as a sustainable competitive advantage. *Interdisciplinary Journal of Contemporary Research in Business*, 4(2), 192-205. <https://pdfs.semanticscholar.org/79a5/aa6a19c1470de3c08350e1639ca2025e831b.pdf>
- [24] Shamma, H. M. (2012). Toward a comprehensive understanding of corporate reputation: Concept, measurement and implications. *International Journal of Business and Management*, 7(16), 151-169. URL: <http://dx.doi.org/10.5539/ijbm.v7n16p151>
- [25] Beneke, J. H. (2011). Marketing the institution to prospective students-A review of brand (reputation) management in higher education. *International Journal of Business and Management*, 6(1), 29. <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.686.7272>
- [26] Suomi, K., Kuoppakangas, P., Hytti, U., Hampden-Turner, C., & Kangaslahti, J. (2014). Focusing on dilemmas challenging reputation management in higher education. *International Journal of Educational Management*. <https://doi.org/10.1108/IJEM-04-2013-0046>
- [27] Alwi, S. F. S., Ali, S. M., & Nguyen, B. (2017). The importance of ethics in branding: mediating effects of ethical branding on company reputation and brand loyalty. *Business Ethics Quarterly*, 27(3), 393-422.
- [28] Foroudi, P. (2019). Influence of brand signature, brand awareness, brand attitude, brand reputation on hotel industry's brand performance. *International journal of hospitality management*, 76, 271-285.
- [29] Ogunbase, A. (2016, March). Investigating the Acceptability and Accessibility of a Smart Digital University in West Africa. In *Society for Information Technology & Teacher Education International Conference* (pp. 326-332). Association for the Advancement of Computing in Education (AACE).
- [30] Abraham, D. R. (2013). Technology readiness as a predictor of cognitive presence in online higher education (Doctoral dissertation, Walden University).
- [31] Al-araibi, A. A. M., Naz'ri bin Mahrin, M., Yusoff, R. C. M., & Chuprat, S. B. (2019). A model for technological aspect of e-learning readiness in higher education. *Education and Information Technologies*, 24(2), 1395-1431.
- [32] Ogbuozobe, J. E., & Okeke, E. P. (2014). Appraisal of the Availability and Utilization of Information and Communication Technology in the Higher Education System. *African Higher Education Review*, 8(2), 96-105.
- [33] Thomas, S. B. (2018). Evaluating Instructor Compliance with the Utilization of Technology in Higher Education Art and Design Courses (Doctoral dissertation, University of Central Oklahoma).
- [34] Feng, G. A. O. (2012). Faculty Adoption and Utilization of Online Instruction in Higher Education: A Study Based on Unified Theory of Acceptance and Use of Technology [J]. *open education research*, 1.
- [35] Gordon, L. C., Gratz, E., Kung, D., Moore, L., & Urbizagastegui, S. G. (2018). Utilization of Information Technology as Instructional Support in Higher Education—A Case Study. *Communications of the IIMA*, 16(1), 3.
- [36] Giovanis, A. N., & Athanasopoulou, P. (2018). Consumer-brand relationships and brand loyalty in technology-mediated services. *Journal of Retailing and Consumer Services*, 40, 287-294.

- [37] Xu, X., Thong, J. Y., & Venkatesh, V. (2014). Effects of ICT service innovation and complementary strategies on brand equity and customer loyalty in a consumer technology market. *Information Systems Research*, 25(4), 710-729.
- [38] Smith, A. D., & Potter, J. A. (2010). Loyalty card programs, customer relationships, and information technology: an exploratory approach. *International Journal of Business Innovation and Research*, 4(1-2), 65-92.
- [39] Wong, W. P. M., Lo, M. C., & Ramayah, T. (2014). The effects of technology acceptance factors on customer e-loyalty and e-satisfaction in Malaysia. *International Journal of Business and Society*, 15(3), 477.
- [40] Zulueta, F. M. & Costales Jr., N. E. B. (2001). *Methods of Research Thesis-Writing and Applied Statistics*, National Bookstore, Mandaluyong City, Philippines.
- [41] Ahmed, Z., Rizwan, M., Ahmad, M., & Haq, M. (2014). Effect of brand trust and customer satisfaction on brand loyalty in Bahawalpur. *Journal of Sociological Research*, 5(1), 306-326. <http://dx.doi.org/10.5296/jsr.v5i1.6568>
- [42] Dzimińska, M., Fijałkowska, J., & Sułkowski, Ł. (2018). Trust-based quality culture conceptual model for higher education institutions. *Sustainability*, 10(8), 2599. <https://doi.org/10.3390/su10082599>
- [43] Schnettler, B., Orellana, L., Lobos, G., Miranda, H., Sepúlveda, J., Etchebarne, S., ... & Grunert, K. G. (2015). Relationship between the domains of the Multidimensional Students' Life Satisfaction Scale, satisfaction with food-related life and happiness in university students. *Nutricion hospitalaria*, 31(6), 2752-2763.
- [44] Demirbatir, R. E. (2015). Relationships between psychological well-being, happiness, and educational satisfaction in a group of university music students. *Educational Research and Reviews*, 10(15), 2198-2206.
- [45] Tay, L., Kuykendall, L., & Diener, E. (2015). Satisfaction and happiness—the bright side of quality of life. In *Global handbook of quality of life* (pp. 839-853). Springer, Dordrecht.
- [46] Zadhasan, Z., Dehghanpour, M., Bastami, M., & Yarahmadi, H. (2017). The Relationship Between Happiness And Psychological Well-Being With Job Satisfaction Of Khuzestan Military Hospital Nurses.
- [47] Nemati, S., & Maralani, F. M. (2016). The relationship between life satisfaction and happiness: the mediating role of resiliency. *International Journal of Psychological Studies*, 8(3), 194.
- [48] Theodorakis, N. D., Kaplanidou, K., & Karabaxoglou, I. (2015). Effect of event service quality and satisfaction on happiness among runners of a recurring sport event. *Leisure Sciences*, 37(1), 87-107.
- [49] Zamil, A.M. (2011). Customer Relationship Management: A Strategy to Sustain the Organization's name and Products in the Customers' Minds, *European Journal of Social Sciences*, 22(3), 451-459.
- [50] Foroudi, P., Yu, Q., Gupta, S., & Foroudi, M. M. (2019). Enhancing university brand image and reputation through customer value co-creation behaviour. *Technological Forecasting and Social Change*, 138, 218-227.
- [51] Husda, N. E. (2018, April). Customer Value And Customer Satisfaction As Mediation Of Mis And Service Quality To Brand Trust And Reputation Of Private Universities In Kepulauan Riau Province. In *Prosiding International conference on Information Technology and Business (ICITB)* (pp. 34-39).
- [52] Fiaz, M., Ikram, A., Basma, A., Tariq, Z., Jafri, S. K. A., & Khurram, W. (2019, November). Role of Social Media Marketing Activities in Creating University Brand Image and Reputation: The Mediating Role of Customer Value Co-creation Behavior. In *2019 8th International Conference on*

- Information and Communication Technologies (ICICT) (pp. 135-141). IEEE.
- [53] Petratos, P., & Damaskou, E. (2015). Management strategies for sustainability education, planning, design, energy conservation in California higher education. *International Journal of Sustainability in Higher Education*.
- [54] Mapotse, T. A., & Sedio, M. Z. (2016). Planning Strategies By Teachers For Technology Education In South African Schools-How Far Are We?. *Empowering the 21st Century Learner*.
- [55] Hudson, S., Roth, M. S., Madden, T. J., & Hudson, R. (2015). The effects of social media on emotions, brand relationship quality, and word of mouth: An empirical study of music festival attendees. *Tourism management*, 47, 68-76.
- [56] Li, X., & Wu, L. (2018). Herding and social media word-of-mouth: Evidence from Groupon. *Forthcoming at MISQ*.
- [57] Wang, Q., Woo, H. L., Quek, C. L., Yang, Y., & Liu, M. (2012). Using the Facebook group as a learning management system: An exploratory study. *British journal of educational technology*, 43(3), 428-438.
- [58] Rutherford, C. (2010). Using online social media to support preservice student engagement. *MERLOT Journal of Online Learning and Teaching*, 6(4), 703-711.
- [59] Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of computer assisted learning*, 27(2), 119-132.
- [60] Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & education*, 58(1), 162-171.
- [61] Zablah, A. R., Bellenger, D. N., & Johnston, W. J. (2004). An evaluation of divergent perspectives on customer relationship management: Towards a common understanding of an emerging phenomenon. *Industrial marketing management*, 33(6), 475-489.
<https://doi.org/10.1016/j.indmarman.2004.01.006>
- [62] Lemon, K.N., White, T. B. & Winer, R. S. (2002). Dynamic Customer Relationship Management: Incorporating Future Considerations into the Service Retention Decision, *Journal of Marketing*, Vol. 66, 1-14.
<https://doi.org/10.1509/jmkg.66.1.1.18447>
- [63] Flint, D. J., Blocker, C. P., & Boutin Jr, P. J. (2011). Customer value anticipation, customer satisfaction and loyalty: An empirical examination. *Industrial marketing management*, 40(2), 219-230.
<https://doi.org/10.1016/j.indmarman.2010.06.034>
- [64] Taleghani, M., Gilaninia, S., & Mousavian, S. J. (2011). The role of relationship marketing in customer orientation process in the banking industry with focus on loyalty (Case study: Banking industry of Iran). *International journal of business and social science*, 2(19).
http://ijbssnet.com/journals/Vol_2_No_19_Special_Issue_October_2011/18.pdf
- [65] Yoo, M., & Bai, B. (2013). Customer loyalty marketing research: A comparative approach between hospitality and business journals. *International Journal of Hospitality Management*, 33, 166-177.
<https://doi.org/10.1016/j.ijhm.2012.07.009>
- [66] Hur, W. M., Park, J., & Kim, M. (2010). The role of commitment on the customer benefits–loyalty relationship in mobile service industry. *The Service Industries Journal*, 30(14), 2293-2309.
<https://doi.org/10.1080/02642060802629877>
- [67] Nguyen, B., & Mutum, D. S. (2012). A review of customer relationship management: successes, advances, pitfalls and futures. *Business Process Management Journal*.
<https://doi.org/10.1108/14637151211232614>

- [68] Kasemsap, K. (2015). The role of customer relationship management in the global business environments. In Trends and innovations in marketing information systems (pp. 130-156). IGI Global. DOI: 10.4018/978-1-4666-8459-1.ch007
- [69] Perez, A. P. D., Reyes, A. N. C. C., Salud, M. C. C., & Spakowski, M. M. M. (2012). Examining the relationship of Electronic Customer Relationship Management and Customer Satisfaction in E-commerce in the Philippines (Doctoral dissertation).
- [70] Miranda, F. A. F., & Lacap, J. P. G. (2014). Customer Relationship Management of Department of Tourism (DOT) Accredited Hotels in Angeles City, Philippines. *European Academic Research* II(6).
- [71] Gibbert, M., Leibold, M., & Probst, G. (2002). Five styles of customer knowledge management, and how smart companies use them to create value. *European management journal*, 20(5), 459-469. [https://doi.org/10.1016/S0263-2373\(02\)00101-9](https://doi.org/10.1016/S0263-2373(02)00101-9)
- [72] Akgün, A. E., İmamoğlu, S. Z., Koçoğlu, İ., İnce, H., & Keskin, H. (2014). Bridging organizational learning capability and firm performance through customer relationship management. *Procedia-Social and Behavioral Sciences*, 150, 531-540. <https://doi.org/10.1016/j.sbspro.2014.09.071>
- [73] McKamey, J. P. (2008). Smart classroom technology: Instructional effectiveness and faculty and student satisfaction. https://nsuworks.nova.edu/gscis_etd/241
- [74] Wang, Z. (2008). Smart spaces: creating new instructional space with smart classroom technology. *New Library World*.