The Student Relationship Management System Process with Intelligent Conversational Agent Platform

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Abstract

The objectives of the study were as follows: (1) to study of the component of the student relationship management system process with intelligent conversational agent platform, (2) to design the student relationship management system process with intelligent conversational agent platform, and (3) to evaluate the student relationship management system process with intelligent conversational agent platform provided by seven experts who had experience in a related field. The study findings suggested that the component of student relationship management system process with intelligent conversational agent platform base on Intelligent student relationship management of Nutthapat and Panita consists of 8 components: (1) Student relationship management strategy, (2) Student life cycle, (3) Student retention, (4) Student services (5) Student identify, (6) Valued student experience (7) Value proposition development and (8) Network development. After analyzing the data, it showed that the overall result of the evaluation of the student relationship management system process with intelligent conversational agent platform was at a very high appropriate level, which can be applied to real situations.

Keywords: process, student relationship management, conversational agent, student loyalty

1. Introduction

The advancement and development of technology change the world from the past in various aspects, such as more intelligent automatic data processing and great amount of data in a huge database that can be used for in-depth analysis to predict the potential situation happening in computer devices or smaller mobile phones that can be carried everywhere (Nambisan et al., 2019). Especially, the disruptive digital technology is no longer only supporting technology, but it is integrated into people's ways of life and also brings a reform to the structure of economic activities, commerce, product and service productions, working process, social and educational process (Chanias et al., 2019).

The university plays an important role in building a workforce that will contribute to the development of the country. Graduates are both the workforce and the product of the university, as well as indication of the quality in education arrangement. To produce graduates possessing the standard qualities relies on several systems and established processes at the same time. Presently, the higher education institution is adjusting and modifying its services offered to students at all levels, but has been facing the trouble that some students have to resign before they can finish their studies. One reason is the lack of support provided to students during their studies (Karsenti, 2019), such as consulting services and resources for individual study. In particular, the overseas students who usually face problems concerning information receiving and immediate cooperation will be affected by the lack of these supports. However, the building and maintenance of relationships between the students and the education institution depend on the establishing of "international student loyalty". In the view of marketing, "international student loyalty" is the prominent goal in the management of relationships with students due to the following three reasons: 1) the income of the university must be stable, so it will be able to run smoothly, 2) the loyalty and commitment to the university of students enable them to have positive attitudes towards education and lead to more contribution in teaching and learning processes. 3) The loyal student will continually support and contribute to build the university's reputation after their graduation (Murtiningsih, 2019). Student relationship management (SRM) is the implementation of the strategy of "Customer Relationship Management (CRM)," which is adjusted to fit with the context of education aimed to build and maintain relationships between

students and the institution by evaluating from the students' loyalty and satisfaction (Dewi Murtiningsih, 2019). The satisfaction greatly affect the loyalty of the students. However, the building of student's loyalty is not easy and require time. The management of student relationships consequently should focus on the satisfaction of students in each aspect, especially in the services provided to students and the employing of technology to support services. This will promote the students' satisfaction and loyalty to the university, as well as decrease the risk of students' resignation before graduation, also, the satisfaction and happiness resulted from receiving proper services and the effective management of the university.

Currently, the successful and effective implementation of student relationship management require information technology as an important component, depending on the suitability of the context, such as science data analysis, big data and data mining, internet of things, blockchain, cloud computing, social media, or even conversational agent called chatbot. Conversational agent which is based on the intelligent agents technology is capable of interacting with human beings, expressing realistic social behavior and emotions. Intelligent agents technology is one of advanced technologies that can be used widely to boost the satisfaction of application's users in business, governmental organizations and educational institutes, as well as in health care and entertainment sectors. This technology relies on natural language processing which attracts the users to put information in the form of a message in a chat box (Procter et al., 2018). Conversational agent is a software that is designed to interact with human beings through the use of natural language (Dale, 2016). This software highly attracts the attention from the public and is considered as the program with a high potential. Moreover, it also possesses many application domains, such as for retail business, health care and education (Feine et al., 2019). As the technology of artificial intelligence (AI) becomes more advanced, conversational agent becomes a platform that is wider used by many organizations to support users in looking for information concerning the products and services, similar in giving instructions for users, such as conversational agent on facebook messenger. Furthermore, human-sounding conversational agent can be found in many mobile phones and computers, such as Apple's Siri and Microsoft's Cortana, as well as in other physical devices, like Google's HomePod and Amazon's Echo Dot. Additionally, there are many research teams aiming to develop 3D conversational agent that can move realistically and interact with human beings through realistic social behaviors and emotions, being successful in many domains.

As the higher education institution is unavoidably affected by the changing situation, to assure that the university has managing system that can support the services for international students and promote their satisfaction and loyalty to the university, it is necessary to conduct research in order to study, design and develop student relationship management with intelligent conversational agent platform for promoting student's loyalty in higher education. This will contribute to promote the loyalty of international students and improve the standard of services provided by the university which will create an identity, boost confidence, make the university distinguished, promote the efficiency in competition and offer an alternative to the international students who are interested to study.

2. Literature Review

2.1. Student Relationship Management

Student relationship management (SRM) is the application of the strategy of customer relationship management (CRM) suiting with the context of each educational institution, with an overall goal to build and maintain good relationships between students and the educational institutions (Srisakonsub et al., 2019). The application of student relationship management with higher education institutions (HEIs) results in good experiences received by students and satisfaction in campus life. The service provision for students important and is also the main responsibility for the higher education institutes, so the range of service should cover all aspects and should be adequate resources as well. The students' behavior reflected in many forms is an indicator of the image of the higher education institution, both in the organizational culture and its capability in managing students. Also, the staff involved with providing services to students has to understand the students' behaviors. Currently, the new concept of the customer relationship management concerning education is gradually being developed, and it is mostly called student relationship management. The student relationship management usually focuses on higher education, such as strategies, processes, and philosophies that will lead to the achievement of the academic objectives and students' needs. The value of student relationship management is that it would develop the competence of the higher education institution. Because it help to promote the understanding between the students and the higher education institution (Bangun et al., 2018) and also prevents the risk of student's resignation before graduation. In order to reach the above-mentioned goals, the higher education institution has to develop the strategy for the effective student relationship management based on information system (Rigo et al., 2016).

2.2 Conversational Agent

Conversational agent or Chatbot is the technology used to produce information or to generate answers for the question put by the user both in the text and voice form. The functioning of conversational agent will be driven by artificial intelligence (AI) in the category of machine learning to select the most relevant and suitable answer for each question, together with the application of natural language processing (NLP) to translate computer's language to the comprehensible language for the user (Przegalinska et al., 2019). In the present, the selection and analysis of data by machine learning has been gradually improved, so it can make a better decision and the application of conversational agent becomes more popular. It is used in daily routine, such as giving necessary information through auto-reply for incoming call, giving information of products and services, giving suggestions for the purchasing of products or services, as well as supporting the service of the customer service center (Call center) (Rashid Khan, 2018). Conversational agent can be divided into different categories depends on the level of the capability to interact and process up to achieving the technology outcome. In present, Dialogflow (Kannadasan et al., 2019) is a popular agent that can be used to generate conversation in Google. In this platform, natural language processing (NLP), a field of machine learning is applied to comprehend the needs and requests from sentences in the conversation with the user, additionally to generate answers required by the user. According to the law of data flowing, when Dialogflow is applied to create conversational agent, it will assist to increase the flexibility of the structure of input sentences, so it is not necessary that the structure of sentences have to be exactly the same as what are specified. Moreover, Dialogflow allows the connection with various systems, such as facebook messenger, twitter, LINE and website. The important basic components in generating conversation on Dialogflow includes as follow (Janarthanam, 2017) 1) Intents are expected sentences sent by the user. If sentences sent by the user are similar to the specified sentences, Dialogflow will send responses being fixed for that intents to the user. 2) Responses are replying messages for each intents and they include a wide range of replying forms according to the connection with appointed systems. 3) Integrations are the connection with other systems, such as facebook messenger, twitter and LINE. Regarding the operation of Dialogflow, Agent or the part that is responsible for comprehending what the user speaks or communicates will receive query or input, then the agent will assess intents or the user's needs. When the processing is finished, the response will be sent to the user, also the connection with other parts can be achieved via API in fulfillment (Navin Sabharwal, 2020).

2.3 Student Loyalty

For seven centuries, the concept of loyalty has been studied by many scholars and various approaches to foster loyalty has been presented. However, the theories on loyalty that are well-known and regularly cited include the theories of Jacoby and Chestnut (Donald W. Jugenheimer, 1979), Dick and Basu (Ngobo, 2017), and Oliver (Oliver, 1999). The mentioned theories have been developed until today and have the fundamental components 1) First, the concept of two-dimensional definition of loyalty which explains that it cannot be assessed from the short-term behavior of customers or students, but the loyalty has to be assessed from other dimensions in long-term. The first dimension is the attitudinal loyalty it concerns the students' attitudes and attachment to the university which will be expressed through the pattern of behavior existing even after graduation, such as the desire to further study or attend other training programs offered by the university, the satisfaction and confidence in the university, the desire to recommend the university to others, the intention to continue studying at the same university despite of the more expensive tuition fee and to refuse changing the university (Snijders et al., 2020). The second dimension is behavioral loyalty which can be noticed by the student's actions, such as the recommendation of the university to others, the capability to finish study from the university, the participation of activities or decision to further study, the enrollment in short-term training programs, as well as the purchasing of the university's products and services, for instance souvenirs or textbooks. 2) Second, Tri-dimensional definition of loyalty is based on the argument although the evaluation of loyalty in two dimensions is widely approved and applied both in theoretical and practical aspects, the study still generates controversy about the human beings' behaviors in responding to stimulators. The reactions of human beings are the outcome of the combinations of three following factors: (1) Cognitive Responses: I think, (2) Emotive Responses: I feel, (3) Behavioral Responses: I do. This concept was developed to the new approach of loyalty evaluation in three dimensions and the behavioral loyalty is still included, but attitudinal loyalty is divided into two following components: (1) Cognitive loyalty concerns attitudes and beliefs which encourage the student to remain studying at the university until graduation and (2) Emotional or affective loyalty concerns positive feelings, attachment to the university, or the liking that drive the student to further study, participate in activities or use other services offered by the university (Saleh Shuqair, Diego Costa Pinto, 2019).

3. Objective

The findings of the component of the student relationship management system process with intelligent conversational agent platform.

The design of the student relationship management system process with intelligent conversational agent platform.

The evaluation of the student relationship management system process with intelligent conversational agent platform.

4. Methodology

This study was conducted in three phases as follows:

Phase 1: The findings of the component of the student relationship management system process with intelligent conversational agent platform were conducted by reviewing documents, literature, and related research.

Phase 2: The design the student relationship management system process with intelligent conversational agent platform. The instruments of study for this phase were 1) the student relationship management system process with intelligent conversational agent platform and 2) the evaluation of the process designed.

Phase 3: The evaluation of the student relationship management system process with intelligent conversational agent platform was conducted by seven experts who have experience in the field of the student relationship management (SRM), the conversational agent and information, and communication technology (ICT) using the purposive method.

The evaluation of the student relationship management system process with intelligent conversational agent platform using the arithmetic mean and standard deviation as the following criteria:

4.51-5.00 at highest of appropriate suitability

3.51-4.50 at a high of appropriate suitability

2.51-3.50 at moderately of appropriate suitability

1.51-2.50 at a low of appropriate suitability

0.00-1.50 at lowest of appropriate suitability

5. Results

Phase 1: The findings of the component of the student relationship management system process with intelligent conversational agent platform base on Intelligent student relationship management of Nutthapat and Panita have 4 dimensions consist of 1) Strategic SRM, 2) Operational SRM, 3) Analytical SRM, and　4) Collaborative SRM and 12 elements (Kaewrattanapat & Wannapiroon, 2018) are as shown in Table 1.

Table 1. The findings of the component of the student relationship management system process with intelligent conversational agent platform

Composition of SRM	(Kaewrattanapat et al., 2019)	(Songsom et al., 2019)	(Murtiningsih, 2019)	(Senika, 2019)	(Vianden, 2016)	(Soltani et al., 2018)	(Skotara, 2020)
Student relationship management vision	✓		✓				✓
Student relationship Management strategy	✓	✓	✓	✓	✓	✓	✓
Student life cycle	✓	✓	✓	✓	✓	✓	✓
Student retention	✓	✓	✓	✓	✓	✓	✓
Student services	✓	✓	✓	✓	✓	✓	✓
Student identify	✓	✓	✓	✓		✓	✓
Differentiate		✓	✓				
Student portfolio analysis	✓		✓				✓
Valued student experience	✓	✓	✓	✓	✓	✓	✓
Value proposition development	✓	✓	✓		✓	✓	✓
Network development	✓	✓	✓	✓	✓	✓	✓

The results of the synthesis of the component of the student relationship management system process with intelligent conversational agent platform in Table 1 consist of 8 components as follows:

1) Student relationship management strategy which is the analysis and planning to determine an approach for utilizing the university's resources in maintaining relationships with students.

2) The emphasis of the student life cycle in managing the student's relations with the university. The process of the student's relations management is adjusted to suit the student life cycle, so that the building and maintaining of student relationships is easy.

3) Student retention is the investigation and assessment in order to discover the success and failure of the student relationship management.

4) Student services is the important part in the management of student relations, and the provision of student services will apply the strategic management of the student relations to the analysis, design, and implementation, so that the provision of student services will conform to the student life cycle.

5) Student identify is the specification of targeted group and qualifications of applicants who apply to study in each program offered by the educational institutions and the analysis of the applicant's application.

6) Valued student experience is the analysis of the university's service provision and the student's behavior in different dimensions, such as the continuity of support, advice providing, and assisting in problem solving given to students by the system of the student relations management.

7) Value proposition development is the development of value proposition or agreement between the educational institutions and the students. The development requires the cooperation from the network of partners both inside and outside the educational institutions so that the educational service provision and the management of student relationships will become effective.

8) Network development is the establishment of supportive relationships among faculty members, non-academic staff, alumni, the university's executives and benefactor, the student's parents, and employers.

The relevant actors and the responsibility of the student relationship management system process with intelligent conversational agent platform include: (1.1) Administrator is a person who coordinates or is in charge of the service provision for international students. (1.2) Lecturer is a user who access the system to get information about international students. (1.3) International student is foreign national whose domicile of origin is in foreign country and studying at King Mongkut's University of Technology North Bangkok. (1.4) System analyst is a person in charge of studying problems and desires of international students so that the system analyst can specify persons, data processing, communication, and information technology, and then cooperate with the system developer in managing or improving the system.

Phase 2: The design of the student relationship management system process with intelligent conversational agent platform is as shown in Figure 1.
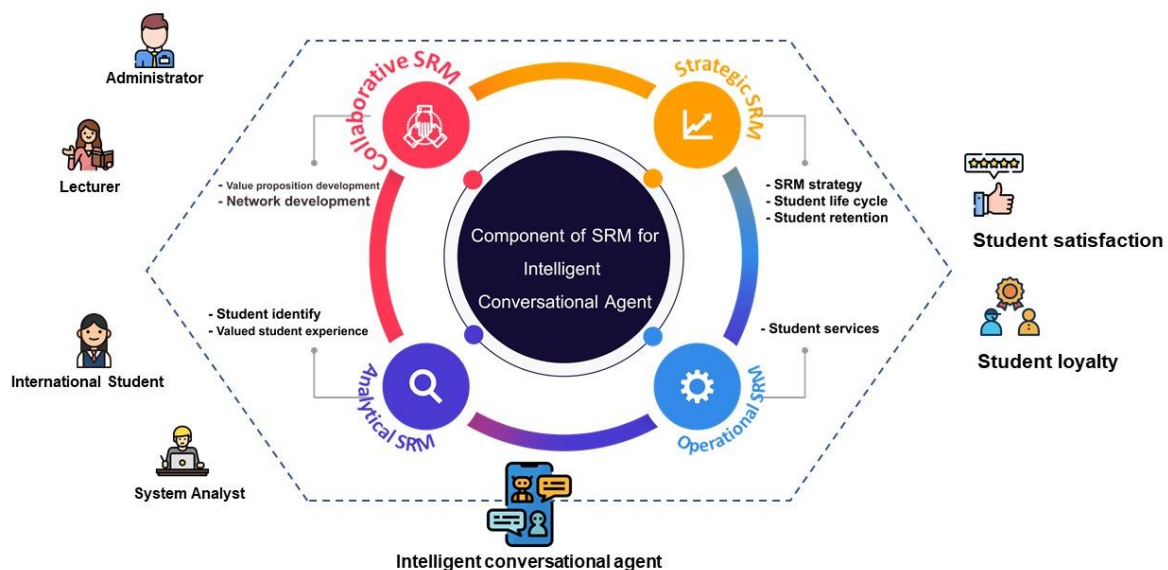

Figure 1. the student relationship management system process with intelligent conversational agent platform

Figure 1 indicates the student relationship management system process with intelligent conversational agent platform. It is a process developed to monitor and analyze student information for HEIs via the concept of student affairs, the student relationship management, and intelligent conversational agent to link information. The student relationship management system process with intelligent conversational agent platform is divided into eight components as follows: (1) Student relationship management strategy, (2) Student life cycle, (3) Student retention, (4) Student services (5) Student identify, (6) Valued student experience (7) Value proposition development and (8) Network development. The intelligent conversational agent is the technology used to produce information or to generate answers for the question put by the user both in the text and voice form. The functioning of conversational agent will be driven by artificial intelligence (AI) in the category of machine learning to select the most relevant and suitable answer for each question, together with the application of natural language processing (NLP) to translate computer's language to the comprehensible language for the user. According to the law of data flowing, the intelligent conversational agent will assist to increase the flexibility of the structure of input sentences, so it is not necessary that the structure of sentences have to be exactly the same as what are specified. Moreover, the intelligent conversational agent allows the connection with various systems, such as facebook messenger, twitter, LINE, and website. The output of the student relationship management system process with intelligent conversational agent platform consists of the following two elements: (1) Student satisfaction is analyzed based on the results of the evaluation on the satisfaction from student and (2) Student loyalty is based on the results of the students' loyalty towards university after usage student relationship management with intelligent conversational agent platform. The student desire to recommend the university to others, the intention to continue studying at the same university.

Phase 3: The Evaluation of the student relationship management system process with intelligent conversational agent platform, as shown in Table 2.

Table 2. The Evaluation of the student relationship management system process with intelligent conversational agent platform

List of Evaluation	$\overline{X}$	S.D.	Suitability
Input (Intelligent conversational agent)			
Application	4.86	0.38	Highest
Web application	4.86	0.38	Highest
Component			
1. SRM strategy	4.80	0.45	Highest
2. Student life cycle	4.60	0.55	Highest
3. Student retention	5.00	0.00	Highest
4. Student services	5.00	0.00	Highest
5. Student identify	4.60	0.55	Highest
6. Valued student experience	4.80	0.45	Highest
7. Value proposition development	5.00	0.00	Highest
8. Network development	4.80	4.95	Highest
Output			
Student satisfaction	5.00	0.00	Highest
Student loyalty	4.71	0.49	Highest
Total	4.84	0.68	Highest

According to Table 2, the overall result of the evaluation of the student relationship management system process with intelligent conversational agent platform was at the highest of appropriate suitability ($\overline{X}$ = 4.84, S.D. = 0.68). Considering each item, most items were at the highest of appropriate suitability.

6. Conclusion and Discussion

According to the evaluation results, the student relationship management system process with intelligent conversational agent platform had an overall appropriateness at a very high level. Considering each item, most items were at a very high appropriate level, and it showed that the experts had consistent opinions. As it is shown in the finding results, the student relationship management system process with intelligent conversational agent platform is divided into eight components as follows: (1) Student relationship management strategy, (2) Student life cycle, (3) Student retention, (4) Student services (5) Student identify, (6) Valued student experience (7) Value proposition development and (8) Network development. This is in accordance with Zahari (2020), who conducted research on the "Effect Of Marketing And Handling Student Complaints Onstudent Satisfaction And

Loyalty" and Hassan, et al. (2020), who conducted research on the "EMPIRICAL study on student satisfaction as mediator between service quality and STUDENT loyalty In Tvet hlis."

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References

Skotara, A., & Christodoulides, C. (2020). *USING SERVICE DESIGN AND CUSTOMER RELATIONSHIP MANAGEMENT MODELS TO TRANSFORM STUDENT EXPERIENCE IN DISTANCE EDUCATION.* 14th International Technology, Education and Development Conference. pp. 2785-2792. https://doi.org/10.21125/inted.2020.0832

Bangun, C. S., Dachyar, M., & Nurcahyo, R. (2018). Developing Conceptual Model in Customer Relationship Management to Increase Customer Satisfaction for Private Higher Education Institution in Jakarta. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3248152

Chanias, S., Myers, M. D., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *Journal of Strategic Information Systems, 28*(1), 17-33. https://doi.org/10.1016/j.jsis.2018.11.003

Dale, R. (2016). The return of the chatbots. *Natural Language Engineering, 22*(5), 811-817. https://doi.org/10.1017/S1351324916000243

Dewi, M. (2019). *Brand Trust as Mediation Variable of Customer Relationship Management Influence on Student Loyalty*. Proceedings of the 1st International Conference on IT, Communication and Technology for Better Life. pp. 71-75. https://doi.org/10.5220/0008929500710075

Jugenheimer, D. W. (1979). Brand loyalty: Measurement and management. *Journal of Advertising, 8*(2). https://doi.org/10.1080/00913367.1979.10717981

Feine, J., Gnewuch, U., Morana, S., & Maedche, A. (2019). A Taxonomy of Social Cues for Conversational Agents. *International Journal of Human Computer Studies, 132*(September 2018), 138-161. https://doi.org/10.1016/j.ijhcs.2019.07.009

Hassan, S., Shamsudin, M. F., Hasim, M. A., Mustapha, I., Buang, R. R., & Wahab, M. I. A. (2020). Empirical study on student satisfaction as mediator between service quality and student loyalty in tvet hlis. *Journal of Critical Reviews, 7*(8), 122-126. https://doi.org/10.31838/jcr.07.08.25

Janarthanam, S. (2017). *Hands-On Chatbots and Conversational UI Development*. Packt Publishing.

Kaewrattanapat, N., & Wannapiroon, P. (2018). intelligent student relationship management model. *Journal of Industrial Education*, *15*(1), 222–230.

Kannadasan, R., Prabakaran, N., Krishnamoorthy, A., & Krishna, N. T. (2019). Chatbot Using Dialogflow and Web Services. *International Journal of Innovative Technology and Exploring Engineering, 9*(1S), 253-260. https://doi.org/10.35940/ijitee.a1052.1191s19

Karsenti, T. (2019). Artificial intelligence in education: The urgent need to prepare teachers for tomorrow's schools. *Formation et Profession, 27*(1), 105. https://doi.org/10.18162/fp.2019.a166

Endarwan, R. E., & Murtiningsih, D. (2019). *The Influence of Customer Relationship Management, Website Quality and Service Quality on Student Satisfaction*. Proceedings of the 1st International Conference on IT, Communication and Technology for Better Life. pp. 153-159. https://doi.org/10.5220/0008931001530159

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy, 48*(8), 103773. https://doi.org/10.1016/j.respol.2019.03.018

Navin Sabharwal, A. A. (2020). *Introduction to Google Dialogflow*. Apress, Berkeley, CA. https://doi.org/10.1007/978-1-4842-5741-8_2

Ngobo, P. V. (2017). The trajectory of customer loyalty: an empirical test of Dick and Basu's loyalty framework. *Journal of the Academy of Marketing Science, 45*(2), 229-250. https://doi.org/10.1007/s11747-016-0493-6

Nutthapat Kaewrattanapat, Jarumon Nookhong, V. J. (2019). THE SYSTEM DEVELOPMENT OF DIGITAL

LIBRARY BY USING CONVERSATIONAL AGENT FOR ENHANCING INTELLIGENT STUDENT. *The 2019 International Academic Research Conference in Zurich*, 83–88.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(Special Issue), 33-44. https://doi.org/10.2307/1252099

Procter, M., Lin, F., & Heller, B. (2018). Intelligent intervention by conversational agent through chatlog analysis. *Smart Learning Environments, 5*(1). https://doi.org/10.1186/s40561-018-0079-5

Przegalinska, A., Ciechanowski, L., Stroz, A., Gloor, P., & Mazurek, G. (2019). In bot we trust: A new methodology of chatbot performance measures. *Business Horizons, 62*(6), 785-797. https://doi.org/10.1016/j.bushor.2019.08.005

Khan, R., & Das, A. (2018). *Build Better Chatbots*. Apress, Berkeley, CA. https://doi.org/doi.org/10.1007/978-1-4842-3111-1

Rigo, G.-E., Pedron, C. D., Caldeira, M., & Araújo, C. C. S. de. (2016). CRM Adoption in a Higher Education Institution. *Journal of Information Systems and Technology Management, 13*(1), 45-60. https://doi.org/10.4301/s1807-17752016000100003

Shuqair, S., Pinto, D. C., & Mattila, A. S. (2019). Benefits of authenticity: Post-failure loyalty in the sharing economy. *Annals of Tourism Research, 78*. https://doi.org/10.1016/j.annals.2019.06.008

Dewnarain, S., Ramkissoon, H., & Mavondo, F. (2019). Social customer relationship management: An integrated conceptual framework. *Journal of Hospitality Marketing & Management, 28*(2), 172-188. https://doi.org/10.1080/19368623.2018.1516588

Snijders, I., Wijnia, L., Rikers, R. M. J. P., & Loyens, S. M. M. (2020). Building bridges in higher education: Student-faculty relationship quality, student engagement, and student loyalty. *International Journal of Educational Research, 100*(September 2019), 101538. https://doi.org/10.1016/j.ijer.2020.101538

Soltani, Z., Zareie, B., Milani, F. S., & Navimipour, N. J. (2018). The impact of the customer relationship management on the organization performance. *Journal of High Technology Management Research, 29*(2), 237-246. https://doi.org/10.1016/j.hitech.2018.10.001

Songsom, N., Nilsook, P., Wannapiroon, P., Fung, C. C., & Wong, K. W. (2019). System architecture of a student relationship management system using Internet of Things to collect digital footprint of higher education institutions. *International Journal of Emerging Technologies in Learning, 14*(23), 125-140. https://doi.org/10.3991/ijet.v14i23.11066

Srisakonsub, P., Jeerungsuwan, N., & Piriyasurawong, P. (2019). Student Relation Management on Cloud Technology for Academic and Internship Counseling Model in Rajabhat University. *Higher Education Studies, 9*(4), 148. https://doi.org/10.5539/hes.v9n4p148

Vianden, J. (2016). Ties That Bind: Academic Advisors as Agents of Student Relationship Management. *NACADA Journal, 36*(1), 19-29. https://doi.org/10.12930/nacada-15-026a

Zahari, A. R. (2020). *Effect Of Marketing And Handling Student Complaints Onstudent Satisfaction And Loyalty*. pp. 670-680. https://doi.org/10.15405/epsbs.2020.12.05.73