Decision Support System For The Best Student Selection Recommendation Using Ahp (Analytic Hierarchy Process) Method

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Abstract.
The background of this research is how to choose the best students in school using the AHP algorithm. Then it can be determined who the best students are. Based on the system that will be input and processed by the system so that it will produce maximum output and not in favor of anyone. The method used in this study is to use the literature study method. And literature study using these 2 methods will be able to provide something new, especially in the field of problem formulation and novel poles will be found after that the method is to conduct trials by inputting process and output so that you can find out who the best students in school. The problem raised in this study is how to determine the best students. Based on the system not based on the choice of someone with the system, it will help the school in determining the best students so that it does not side with one party and choose the wrong choice. In this study will produce data that can be known which students will be selected to be the best students in school based on the process of the AHP algorithm that has been included in this study.

Keywords: *Decision Support System, Student, Recommendation, AHP.*

I. INTRODUCTION

Because it must be accounted for the results of the decisions to be taken Mother can help humans in making the right decisions in this study will discuss how to determine the best students according to the school version by using the system, it will be assisted in selecting which of the best students in the school the method used The method used in this research is to use the literature review method and literature study. Therefore, with this, the data will be tested on the students to be tested. Who will be the best students in school [1].Realizing the fulfillment of the basic rights of citizens properly requires handling steps and a systematic and comprehensive approach. In its implementation, the main priority of national development is given to the maintenance of public welfare, institutional arrangement and implementation of the social protection system. The targets to be achieved through this priority include improving the welfare of the community, especially the poor, so that the poverty rate can decrease. The Palangka Raya City area also received attention from the government to obtain Non-Cash Food Assistance, previously known as the rice program for poor families distributed by Bulog to the village office, called the distribution point. The obstacle in implementing and coordinating the program at the central government level, regional government as well as with stakeholders is the limited data and integrated information related to the lower middle class population. The criteria for selecting the eligibility criteria for Raskin recipients use the non moneytary variable poverty criteria [2].

The Decision Support System for the Palangka Raya-wide BPNT program was created as a decision-making tool to determine the poor who are entitled to receive rice for poor households or beneficiary families or BPNT in the city of Palangka Raya, where this system does not handle the supply and distribution of rice. This application assists in determining alternative beneficiaries, assists in data management of potential beneficiaries and data management of recipients selected from the recommendations. The language used to build this Raskin website is PHP, and MySQL as the database [3].This journal has a background based on the use of technology

that has been widely used in terms of marketing and product promotion. Creative industry business players on the MSME scale in Indonesia can market through various media such as E-Commerce and social media. MSME actors must make a decision to use E-Commerce that best suits their needs and circumstances. Decision making is a process of selecting alternative actions to achieve certain goals or objectives. To assist in the decision-making process, currently one can use information technology in the form of a Decision Support System (DSS) [4].One method that can be used in the Support System is to use the Analytical Hierarchy Process (AHP) method. System assessment can refer to a measure of quality in the use of a system or application which in the System and Software Quality and Evaluation (SQuaRE) can use the standardization criteria of ISO/IEC 9126-4 part of the metric measurement of quality in use. ISO/IEC 9126 can be used to assess software quality in terms of usage, coding quality and data quality [5].

The purpose of this study is to implement a decision support system to determine the best alternative from a number of alternative existing E-Commerce systems using the AHP method to help MSME actors [6].The application of this AHP method can provide recommendations in decision making to determine the E-Commerce marketplace system that best suits the needs of MSME actors to market their creative industry products [7].This decision support model will describe complex multi-factor or multi-criteria problems into a hierarchy, by assigning subjective values to the relative importance of each variable, and determining which variable has the highest priority. The decision-making process is basically choosing the best alternative. Such as structuring the problem, determining alternatives, determining possible values for alleatory variables, setting values, requirements for time preferences, and specifications for risk. The main tool of AHP is to have a functional hierarchy with the main input being human perception. With a hierarchy, a complex and unstructured problem is solved into its groups and organized into a hierarchical form [8].The social assistance is used properly according to the procedures provided by the government, it is carried out perfectly without being hampered and so that social assistance is misused into private pockets, which causes development to be hampered and there are problems between the government and the poor.In solving problems the government must be able to identify the problems that the community wants so that the community does not have difficulty in the most important drinking water facilities.

For residents who have difficulty with clean water, besides the difficulty of defecation facilities, the most important thing is to avoid indiscriminate defecation where there must be toilet facilities to be built.The Decision Support System for the Palangka Raya-wide BPNT program was created as a decision-making tool to determine the poor who are entitled to receive rice for poor households or beneficiary families or BPNT in the city of Palangka Raya, where this system does not handle the supply and distribution of rice. This application assists in determining alternative beneficiaries, assists in data management of potential beneficiaries and data management of recipients selected from the recommendations. The criteria used consist of 10 criteria, namely: main income, control status of the residential building occupied, type of residential floor, type of residential wall, drinking water source facilities, lighting facilities, fuel for cooking, defecation facilities, place final disposal of feces, ownership of household assets.Determination of the Family of Prospective BPNT Recipients uses a number of pre-determined criteria. Steps to complete the AHP calculation. Define the problem and determine the desired way of solving the problem. The poor criteria used to determine potential recipients of Raskin are as follows: a. Main income b. Residential building c. Drinking Water Facilities d. Information Facilities e. Fuel for Cooking f. Defecation Facilities g. Type of Residential Floor h. Type of Residential Wall i. The Most Expensive Household Asset j. Site for the final disposal of feces.In determining scholarship acceptance, there are many criteria that must be possessed by individuals as a condition for obtaining scholarships.

Each school must have criteria to determine who will be selected to receive the scholarship. In this study, a case will be raised, namely looking for the best alternative based on predetermined criteria using the SAW method. The research was conducted by finding the weight value for each attribute, then a ranking process was carried out which would determine the optimal alternative, namely the best student. The development of

technology, especially computers in recent years is very rapid. In the past, people wrote using writing tools such as pens or pencils. Simply by pressing the keyboard, the desired letter or number will appear on the screen.As for every educational institution, especially schools, computers are a tool to facilitate performance for each teacher and staff on duty, and especially in receiving scholarships. The criteria set out in this case study are grades, parental income, number of siblings, number of dependent parents, and others. Therefore, not all who register as prospective recipients of the scholarship will be accepted, only those who meet the criteria will receive the scholarship. Due to the large number of participants applying for scholarships and many criteria indicators, it is necessary to build a decision support system that will help determine who is entitled to receive the scholarship.A decision support system is an information generating system aimed at a particular problem that must be solved by the manager and can assist the manager in making decisions.

Decision support systems are an integral part of the totality of the overall organizational system. An organizational system includes physical systems, decision systems and information systems. Because this management system produces a number of decisions, the management system is often called a decision system.Based on the description above, the decision system cannot be separated from the physical system and information system. The complexity of the physical system requires a complex decision system as well. This interactive nature is intended to facilitate the integration between various components in the decision-making process such as procedures, policies, techniques, analysis, as well as experience and managerial insights in order to form a flexible decision framework. A decision support system is a systematic approach to the nature of a problem, collecting mature decisive facts from the alternatives encountered and taking the most appropriate action.Health is one of the most complex problems in today's modern world. According to Blum, there are four main factors that determine the degree of public health, namely behavior, environment, health services and heredity, which can be further broken down into secondary and tertiary factors. The Analytic Hierarchy Process is an approach model that provides opportunities for planners and program managers in the health sector to be able to build ideas or ideas and define existing problems by making assumptions and then getting the solutions they want. By using the AHP model, each health program priority is clearly determined, compared to using the Hanlon, Delbeq and PEARL methods that have been used by health program managers in Ternate City and in Indonesia.

II. RESEARCH METHOD

At this stage, we will discuss how this understanding takes place and what methods are used in research. The first stage in this research is to use the literature review method by reading a lot of journals and books related to this research, after that the second stage of this research is looking for problem formulations from journals and books that have been read with these journals and books it will be able to find the latest problems and novelty from this research after that the 3rd stage is how the research can take place so that it can enter the 4th stage, namely finding the results of the research that has been formulated from the beginning is to answer the research problems that exist in the second stage above.

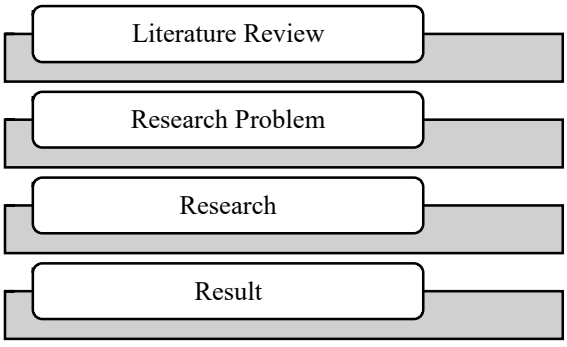

Fig 1. Research Method

III. RESULT AND DISSCUSION

In this section will discuss how the trial will be applied based on data taken in the field, namely the data of the best prospective students by inputting the process and output it will know who the best students in school are.

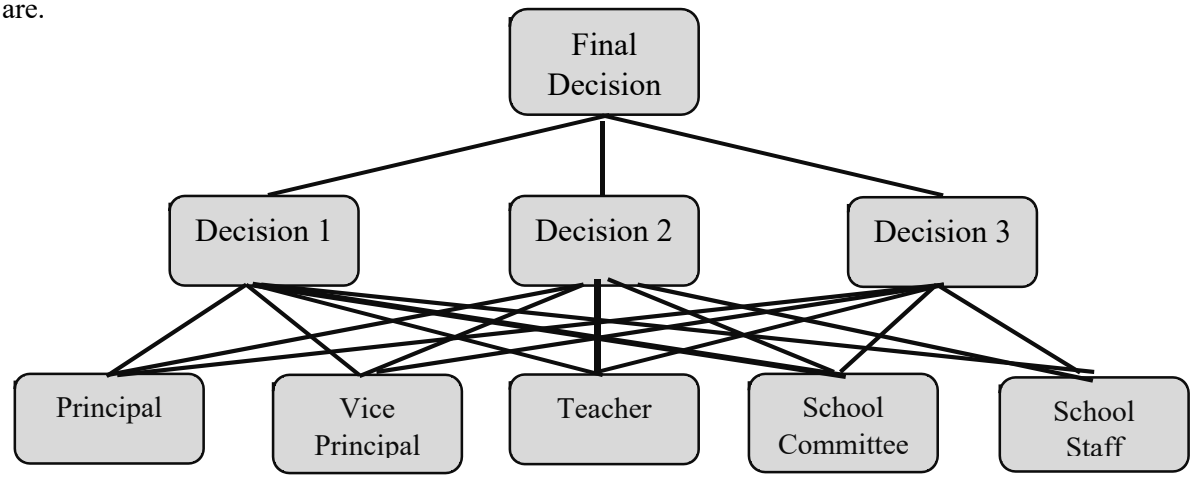

Fig 2. AHP Concept

Based on Figure 2 above, it will be explained that with the application of the concept, decisions can be taken optimally and can be taken fairly and not in favor of anything. Therefore, the selection of the best students can be done without any interference from one party who favors someone so that with this system, the best students will be chosen fairly and appropriately.

Table 1. Decision Making Table

No	Tester	Parameter Tester	Parameter Tester
1	Principal	IQ	A1
2	Vice Principal	EQ	A2
3	Teacher	Attitude	A3
4	School Committee	Association	A4
5	School Staff	Friendship	A5

Based on table 1 above, an explanation will be given as follows. Table 1 is a decision-making table consisting of the first 5 principals, vice principals, teachers, school committees, school staff, each of which gives the parameters of IQ, EQ, Attitude, Association, Friendship and coded A1, A2, A3, A4, and A5.

Table 2. Parameter Table

No	Parameter	Code	Scale
1	IQ	A1	10 - 100
2	EQ	A2	10 - 100
3	Attitude	A3	10 - 100
4	Association	A4	10 - 100
5	Friendship	A5	10 - 100

Based on table 2 above, gives the parameters of IQ, EQ, Attitude, Association, Friendship and coded A1, A2, A3, A4, and A5, and give scale 10-100.

Table 3. Decision Table

No	Best Student Scale Score	Rating Letter	Decision
1	1 - 100	E	Not Good
2	101 -200	D	Not Good
3	201 - 300	C	Not Good
4	301 - 400	B	Good
5	401 -500	A	Good

Based on table 3 above, it can be concluded that the decision value has a score of 1 to 100 has an e rating with a bad decision, a score of 101 to 200 has a rating at with a bad value, 201-300 has a bad rating, the decision is not

a good value, 301-400 has a B rating. with a good decision 401-500 has a rating of A with a good decision therefore if you want to be the best student you must have a minimum rating of A or a rating of B.

Table 4. Table of the Best Student Candidates

No	Name of Session
1	Khalif Syah
2	Rama Sayartin
3	Andika putra
4	Syamsir Alam
5	Tomi abdullah
6	Azan Dinilah
7	Lia Amalia
8	Eko Aprianto
9	Nur Syah Dana
10	Caca Sapitri

Based on table 4 above, the names of the best prospective students will be nominated to be the best students, with results that will show who is the best among them before they are tested by the examiners.

Table 5. Table of Point Results

No	Name of Session	A1	A2	A3	A4	A5	Total
1	Khalif Syah	80	85	89	80	87	421
2	Rama Sayartin	90	89	86	87	83	435
3	Andika putra	86	87	85	86	87	431
4	Syamsir Alam	85	89	80	85	89	428
5	Tomi abdullah	80	89	86	80	89	424
6	Azan Dinilah	86	85	86	86	87	430
7	Lia Amalia	85	80	85	85	86	421
8	Eko Aprianto	89	86	80	89	85	429
9	Nur Syah Dana	87	85	86	89	89	436
10	Caca Sapitri	86	89	85	80	87	427

Based on table 5 above, it can be concluded that there is a value for each value coded A1, A2, A3, A4, and A5, then the five values will be totaled so as to produce the maximum value of the five appraisers. If that is added, it can be seen which student with the highest score can be made the best student.

Table 6. Table of Decision Results

No	Name of Student	Total	Rating Letter	Decisions
1	Khalif Syah	421	A	Baik
2	Rama Sayartin	435	A	Baik
3	Andika putra	431	A	Baik
4	Syamsir Alam	428	A	Baik
5	Tomi abdullah	424	A	Baik
6	Azan Dinilah	430	A	Baik
7	Lia Amalia	421	A	Baik
8	Eko Aprianto	429	A	Baik
9	Nur Syah Dana	436	A	Baik
10	Caca Sapitri	427	A	Baik

Based on table 6 above, it can be concluded that there is a total score that has been given by the examiners, namely, the highest score is the value of Nur Syah Dana with number 9, the value is 436, with an A rating with good decisions, therefore humans are chosen as the best students.

Table 7. Testing Table

No	Parameters Tested	Test result
1	Input Tester Value	OK
2	Participant Data Verification	OK
3	Data processing	OK
4	Participant Value Verification	OK
5	Decision Output	OK

Based on table 7 above, the results of the parameter testing are the input tester value, OK, participant data verification, OK, process data, OK, participant value verification, OK, and decision output, OK, the conclusion is that all process inputs and outputs have been running smoothly good.

IV. CONCLUSION

Based on the results of the research above, it can be concluded that the results of the selection process for the best students using abote AHP can be done optimally because it can produce data results as expected, therefore with the AHP algorithm method applied to the selection of students the best student heirlooms are given to Nur Syah Dana funds with a total value of 436 with a rating of A with good decisions, therefore based on the election based on voters, the results are maximal and can be accounted.

REFERENCE

[1] A. R. Aditya Nalendra, S. H. Winarno, A. Priadi, E. Hermawan, M. W. Purnomo and A. S. Putra, "The Effect of Goods Prices And Buyer Trust on The E-Commerce Sales System For Purchasing Goods Online," ***International Journal of Science, Technology & Management,*** vol. 2, no. 3, pp. 561-567, 2021.

[2] A. . F. Lamaya, R. Vikaliana, A. S. Putra and N. Aisyah, "The Influence of Price, Quality and Model on Clothing Sales Levels with E-Commerce Media," ***International Journal of Educational Research & Social Sciences,*** vol. 2, no. 3, pp. 464-470, 2021.

[3] D. N. M. A. A. P. J. I. D. H. S. Y. C. Arman Syah Putra, ""Examine Relationship of Soft Skills, Hard Skills, Innovation and Performance: the Mediation Effect of Organizational Le," ***IJSMS,*** pp. 27-43, 2020.

[4] M. Ayamga, B. Tekinerdogan and A. Kassahun, "Exploring the Challenges Posed by Regulations for the Use ofDrones in Agriculture in the African Context," *Land 2021,* vol. 164, no. 10, pp. 1-13, 2021.

[5] C. Bhuvaneshwari, G. Saranyadevi, R. Vani and A. Manjunathan, "Development of High Yield Farming using IoT based UAV," *IVC RAISE 2020,* vol. 1, no. 2, pp. 1-5, 2020.

[6] A. Damuri, N. Isnain, R. A. Priyatama, Y. I. Chandra and A. S. Putra, "E-Learning Proposal System in Public Secondary School Learning," ***International Journal of Educational Research & Social Sciences (IJERSC),*** vol. 2, p. 270–275, 2021.

[7] N. K. Dewi and A. S. Putra, "Perkembangan Gamification dan Dampak Game Online terhadap Jiwa Manusia di Kota Pintar DKI Jakarta," ***Jurnal Informatika Universitas Pamulang,*** vol. 5, no. 3, pp. 315-320, 2020.

[8] N. K. Dewi and A. S. Putra, "SISTEM PENUNJANG KEPUTUSAN PENERIMAAN KARYAWAN BARU DENGAN ALGORITMA GREEDY,**" *Jurnal Visualika,*** vol. 6, no. 2, pp. 154-160, 2020.

[9] V. Valentino, H. S. Setiawan, . A. Saputra, Y. Haryanto and A. S. Putra, "Decision Support System for Thesis Session Pass Recommendation Using AHP (Analytic Hierarchy Process) Method," ***Journal International Journal of Educational Research & Social Sciences,*** pp. 215-221, 2021.

[10] . V. H. Valentino, H. S. Setiawan, M. T. Habibie, R. Ningsih, D. Katarina and A. S. Putra, "Online And Offline Learning ComparisonIn The New Normal Era," ***International Journal of Educational Research & Social Sciences (IJERSC),*** vol. 2, no. 2, p. 449–455, 2021.

[11] B. V. HANRAHAN, C. MAITLAND, T. BROWN, A. CHEN, F. KAGAME and B. BIRIR, "Agency and Extraction in Emerging Industrial DroneApplications: Imaginaries of Rwandan Farm Workers andCommunity Members," *Proc. ACM Hum.-Comput. Interact.,,* vol. 4, no. 3, p. 233, December 2020..

[12] . R. Suryadithia, M. Faisal, A. S. Putra and N. Aisyah, "Technological Developments in the Intelligent Transportation System (ITS)," ***International Journal of Science, Technology & Management,*** vol. 2, no. 3, pp. 837-843, 2021.

[13] W. C. Sundara, R. A. Haryati, S. A. Rachmat, . A. S. Putra and N. Aisyah, "EFFECT OF HUMAN RESOURCES AND BUDGET IN PROJECT RISK MANAGEMENT FOR ENTERPRISE RESOURCE PLANNING SYSTEMS," ***Journal of Innovation Research and Knowledge,*** vol. 1, no. 3, pp. 125-130, 2021.

[14] W. Sundara, R. A. Haryati, S. A. Rachmat, A. S. Putra and N. Aisyah, "EFFECT OF HUMAN RESOURCES AND BUDGET IN PROJECT RISK MANAGEMENT FOR ENTERPRISE RESOURCE PLANNING SYSTEMS," ***Journal of Innovation Research and Knowledge,*** vol. 1, no. 2, pp. 125-130, 2021.

[15] I. Ramadhan, A. Kurniawan and A. S. Putra, "Penentuan Pola Penindakan Pelanggaran Lalu Lintas di DKI Jakarta Menggunakan Metode Analytic Network Process (ANP)," *IKRA-ITH INFORMATIKA:* ***Jurnal Komputer dan Informatika,*** vol. 5, no. 1, pp. 51-57, 2020.

[16] S. Rachmawati, U. Djaniar, A. S. Putra and N. Aisyah, "THE EFFECT OF THE COVID 19 VIRUS AND ONLINE LEARNING ON ENGLISH SUBJECTS IN SENIOR HIGH SCHOOL," ***Journal of Innovation Research and Knowledge****,* vol. 1, no. 3, pp. 435-440, 2021.

[17] S. Rachmawati, A. S. Putra, A. Priyatama, D. Parulian, D. Katarina, M. T. Habibie, M. Siahaan, E. P. Ningrum, A. Medikano and V. Valentino, "Application of Drone Technology for Mapping and Monitoring of Corn Agricultural Land," *IEEE,* vol. 1, no. 1, pp. 1-5, 2021 .

[18] A. S. Putra, D. C. Dewi , H. Kariyanto , M. and R. , "The Effect of Ease of Application and Ease of Payment in Online Sales to Increase Sales," ***International Journal of Science, Technology & Management****,* pp. 1841-1847, 2021.

[19] A. S. Putra and N. Aisyah, "SISTEM PEMBELAJARAN ONLINE MENGGUNAKAN VIRTUAL REALITY," *Prosiding Seminar Nasional Pendidikan,* pp. 295-303, 2021.

[20] A. S. Putra and N. K. Dewi, "Perkembangan Gamification dan Dampak Game Online terhadap Jiwa Manusia di Kota Pintar DKI Jakarta," ***Jurnal Informatika Universitas Pamulang,*** vol. 5, no. 3, pp. 315-320, 2020.

[21] A. S. Putra, "PERBANDINGAN EFEKTIVITAS SISTEM PEMBELAJARAN ONLINE DAN OFFLINE DI ERA NEW NORMAL," *Prosiding Seminar Nasional Pendidikan,* pp. 304-311, 2021.

[22] A. S. Putra, H. Waruwu, M. Asbari, D. Novitasari and A. Purwanto, "Leadership in the Innovation Era: Transactional or Transformational Style?," ***International Journal Of Social And Management Studies (IJOSMAS),*** vol. 1, no. 1, pp. 8-17, 2021.

[23] A. S. Putra, D. P. M. Akhirianto and N. Aisyah, "Designing A Virtual Jakarta Tourism Application On Android Os And Virtual Reality Tools," ***International Journal of Science, Technology & Management****,* pp. 1460-1467, 2021.

[24] A. S. Putra, "Analisa Dan Perancangan Sistem Tata Kelola Parkir Cerdas Di Kota Pintar Jakarta," *IKRA-ITH INFORMATIKA:* ***Jurnal Komputer dan Informatika,*** vol. 4, no. 3, pp. 13-21, 2020.

[25] A. S. Putra and . R. R. Fatrilia, "Paradigma Belajar Mengaji Secara Online Pada Masa Pandemic Coronavirus Disease 2019 (Covid-19)," *MATAAZIR:* ***Jurnal Administrasi dan Manajemen Pendidikan,*** pp. 49-61, 2020.

[26] A. S. Putra and L. H. S. W. Harco , "Intelligent Traffic Monitoring System (ITMS) for Smart City Based on IoT Monitoring," *Indonesian Association for Pattern Recognition International Conference (INAPR) IEEE,* pp. 161-165, 2018.

[27] A. S. Putra, H. Ludiya, N. Aisyah and B. S. Prasetyo, "INFLUENCE OF PRICES OF GOODS ANDA PROMOTIONAL MEDIA FOR E-COMMERCE SALES PLANNING SYSTEMS," ***Journal of Innovation Research and Knowledge,*** vol. 1, no. 3, pp. 249-254, 2021.

[28] A. S. Putra, L. H. S. W. Harco , S. A. Bahtiar , T. Agung , . S. Wayan and H. K. Chu-, "Gamification in the e-Learning Process for children with Attention Deficit Hyperactivity Disorder (ADHD)," *Indonesian Association for Pattern Recognition International Conference (INAPR) IEEE,* pp. 182-185, 2018.

[29] A. S. Putra, L. H. S. W. Harco , L. G. Ford , . S. Benfano and A. Edi , "A Proposed surveillance model in an Intelligent Transportation System (ITS)," *Indonesian Association for Pattern Recognition International Conference (INAPR) IEEE,* pp. 156-160, 2018.

[30] T. Kuncara, A. S. Putra, N. Aisyah and V. Valentino, "Effectiveness of the E-Ticket System Using QR Codes For Smart Transportation Systems," ***International Journal of Science, Technology & Management,*** vol. 2, no. 3, pp. 900-907, 2021.

[31] D. P. Irianto, A. S. Putra, N. Aisyah, V. Valentino and M. Siahaan, "THE EFFECT OF THE COVID 19 VIRUS AND ONLINE LEARNING ON ENGLISH SUBJECTS IN JUNIOR HIGH SCHOOL," ***Journal of Innovation Research and Knowledge,*** vol. 1, no. 2, pp. 131-136, 2021.

[32] M. S. Hartawan, A. S. Putra and A. Muktiono, "Smart City Concept for Integrated Citizen Information Smart Card or ICISC in DKI Jakarta," ***International Journal of Science, Technology & Management,*** pp. 364-370, 2020.

[33] B. Givan, . R. Wirawan, D. Andriawan, N. Aisyah, A. and A. S. Putra, "Effect of Ease And Trustworthiness To Use E-Commerce for Purchasing Goods Online," ***International Journal of Educational Research & Social Sciences (IJERSC)***, vol. 2, no. 2, p. 277–282, 2021.

[34] N. K. Dewi, I. Mulyana, A. S. Putra and F. R. Radita, "Konsep Robot Penjaga Toko Di Kombinasikan Dengan Pengendalian Virtual Reality (VR) Jarak Jauh," *IKRA-ITH INFORMATIKA:* ***Jurnal Komputer dan Informatika***, vol. 5, no. 1, pp. 33-38, 2020.

[35] N. K. Dewi and A. S. Putra, "TEKINFO Vol. 22, No. 1, April 2021| 66Pengembangan Sistem Jaringan Menggunakan Local Area Network Untuk Meningkatkan Pelayanan(Studi Kasus di PT. ARS Solusi Utama)," *TEKINFO,* vol. 22, no. 1, pp. 66-80, 2021.

[36] N. K. Dewi and A. S. Putra, "Prosiding International Conference of Universitas Pekalongan," *Prosiding International Conference on Education of Suryakancana 2021 (ICONNECTS 2021),* pp. 321-326, 2021.

[37] N. K. Dewi and A. S. Putra, "LAW ENFORCEMENT IN SMART TRANSPORTATION SYSTEMS ON HIGHWAY," *Proceedings International Conference onEducation of Suryakancana 2021,* pp. 321-326, 2021.

[38] N. K. Dewi, . B. H. Irawan, E. Fitry and A. S. Putra, "Konsep Aplikasi E-Dakwah Untuk Generasi Milenial Jakarta," *IKRA-ITH INFORMATIKA:* ***Jurnal Komputer dan Informatika***, vol. 5, no. 2, pp. 26-33, 2020.

[39] N. K. Dewi and A. S. Putra, "Decision Support System for Head of Warehouse Selection Recommendation Using Analytic Hierarchy Process (AHP) Method," *Prosiding International Conference of Universitas Pekalongan,* pp. 1-12, 2021.

[40] A. S. Putra, D. H. Oktaviani, W. Sari and L. Apriani, "The Influence of the Covid 19 Virus and Online Learning on the Education System for Islamic Subjects," ***International Journal of Educational Research & Social Sciences,*** vol. 2, no. 3, pp. 476-481, 2021.

[41] D. Prasetyo, . R. R. Prayogi, I. Rahmawati and A. S. Putra, "The Effect of the Covid 19 Virus and Online Learning on English Subjects in Elementary Schools," ***International Journal of Educational Research & Social Sciences,*** vol. 2, no. 3, pp. 488-493, 2021.

[42] N. M V, S. M P and H. S A, "AUTONOMOUS QUAD COPTER FOR AGRICULTURAL LAND SURVEILLANCE," ***International Journal of Advanced Research in Engineering and Technology*** , vol. 12, no. 1, pp. 892-901, 2021.

[43] D. . P. Irianto, A. . S. Putra, N. Aisyah, V. Valentino and M. Siahaan, "THE EFFECT OF THE COVID 19 VIRUS AND ONLINE LEARNING ON ENGLISH SUBJECTS IN JUNIOR HIGH SCHOOL," ***Journal of Innovation Research and Knowledge,*** vol. 1, no. 2, pp. 131-136, 2021.

[44] S. P. A. S. Iswiyanti, D. Parulian, A. S. Putra and N. Aisyah, "New Technology in Automated Vehicles to Improve Passenger Safety," ***International Journal of Educational Research & Social Sciences***, vol. 2, no. 3, pp. 536-541, 2021.

[45] S. A. S. Putra and Y. Novembrianto, "TEKINFO Vol. 22, No. 1, April 2021| 100Sistem Manajemen Pelayanan Pelanggan Menggunakan PHP Dan MySQL(Studi Kasus pada Toko Surya)," *TEKINFO,* vol. 22, no. 1, pp. 100-116, 2021.

[46] A. F. Lamaya, R. Vikaliana, A. S. Putra and N. Aisyah, "The Influence of Price, Quality and Model on Clothing Sales Levels with," ***International Journal of Educational Research & Social Sciences,*** vol. 2, no. 3, pp. 464-470, 2021.