

Development of Electronic Business Management Information System At Trinita Elektro Manado Store

Alex C. Andaria¹, Hiskia K. Manggopa², Mario T. Parinsi³

Postgraduate Program, Universitas Negeri Manado

Corresponding author : alexandaria@unima.ac.id

ARTICLE INFO

Article history:

Received: 20 March 2022; Received in revised form: 29 April 2022; Accepted: 20 June 2022;

Available online: 29 June 2022; Handling Editor: Fabiola Natasya Wauran

ABSTRACT

The purpose of the study was to determine the results of the development of an electronic business management information system and to produce a valid, practical, and efficient electronic business management management information system at the Trinita Elektro Store. The type of research used is research and development or Research and Development (R&D) using the Borg & Gall development model whose research and development steps consist of data collection and initial planning, product development (initial product), product validation, product revision. , product trial 1, product revision 2, product trial 2 and (8) final product (dissemination and implementation). The subjects in this study were business owners, technicians, cashiers, and customers at the Trinita Elektro Store. Data collection techniques using literature studies, interviews and questionnaires / questionnaires. The instruments used are expert validation sheets and product trial questionnaires. While the data analysis technique used is quantitative descriptive analysis. The results showed that the electronic business management information system was feasible to be tested after being validated by design experts and materials experts at the address <https://trinitaelektro.website/>.

Keywords : *research and development, management information system, electronic business.*

INTRODUCTION

The industrial revolution 4.0 is seen through digitization in various fields that will connect millions of people through websites, personal blogs, and other web-based platforms. This will increase business opportunities, business and organizational efficiency, and renew the environment through better asset

management. Technological developments will form a new world community, namely the digital era society, and are expected to have a significant impact on entrepreneurial growth, also related to the corona pandemic (COVID-19) condition which has led to a new policy from the government, namely the work from home policy. and learning from home (study from home) along with the recommendation to maintain a distance (social distancing) to be applied to almost all work and learning, this is a great opportunity for business actors in electronic repair services, especially repairing Personal Computers. Laptops, and cellphones, Good and accurate management of service and financial administration systems is one of the strategies that can be applied by MSMEs in facing the above competition. The information system is an integrated and complementary processed data unit that produces processed data, both in the form of images, sound and writing (Rusdiana & Irfan, 2014). According to (Laudon & Laudon) (2014) "management information system is an integrated system that provides information to support operational activities, management, and decision-making functions of an organization".

Based on a brief interview conducted by the author with business actors, both business owners or technicians from several places of business for Electronic Repair Services in Manado City, it is stated that the shortcomings are the current weaknesses that often cause problems such as: unclear financial reports, entry flow and out of disorganized repair items (lost/scattered) in other words the service is often forgotten, often accused by consumers/customers that technicians exchange components or remove parts of goods (causing problems between technicians and consumers/customers), goods handover sheets are often lost or scattered, there is no SOP (Standard Operating Procedure) for repair of goods, and there is no supporting data to complete the repair of goods/troubleshooting sheets. The formulation of the problem, namely: 1). How to develop a Management Information System for managing the electronic business of the Manado Electro Trinita Store; 2). How to produce an effective Management Information System for managing the electronic business of the Manado Electro Trinita Store. The aims of this research are 1). Knowing the results of the development of an effective Management Information System for managing the electronic business of the Manado Electro Trinita Store; 2). Produce an effective Management Information System for managing the electronic business of the Manado Electro Trinita Store, while the benefits obtained through this research are: 1) As a scientific work that is expected to contribute to the development of digital science and technology; 2). Adding insight and enriching studies on the subject matter of SMK entrepreneurship (creative entrepreneurship), especially the TKJ major; 3). Become an alternative case study material in developing and improving the quality of education in order to support national development in the context of "SMK BISA"; 4). Supporting business management in providing easy monitoring and evaluation of cash flow; 5) Ease in solving problems (troubleshoot) repairing goods/electronic devices, and overcoming the problem of the target completion time for repairing goods/equipment; 6). In line with the ministry's program, to realize a production unit, namely a sustainable business activity process that is academic and business in nature, by empowering school residents and the environment in the form of a product/service production unit, which is managed professionally; 7). Supporting the government's long-term program towards developed countries with 14% entrepreneurs and helping the government to provide job opportunities (opening new jobs), as well as in line with the government to realize revolution 4.0 (digitalization); 8) Supporting vocational programs, namely "SMK BISA" Ministry of Education and Culture (in the context of MERDEKA BELAJAR) regarding Vocational Revitalization, which directs SMK graduates to become entrepreneurs,

METHOD

The type of research in this research is research and development (R&D) using the Borg and Gall research approach, with the aim of research to produce a product, either a new product or improving an existing product. This study aims to develop a management information system that aims to provide convenience in accessing the information needed and the fluency in conveying the latest, accurate, and fast information. The steps of the R&D research stages used can be seen in the image below.

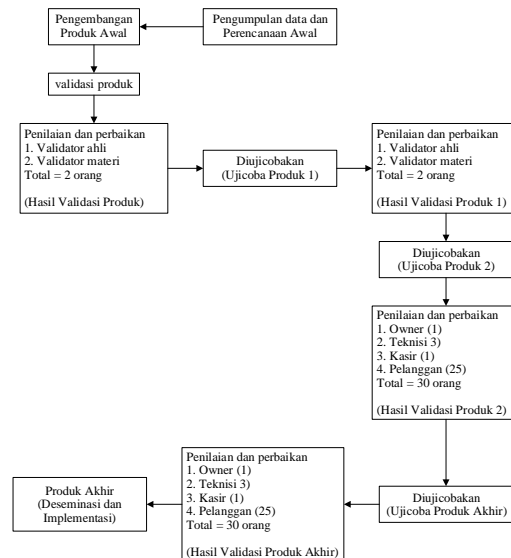


Figure 1. R&D research flow

Data collection includes shop selection, needs analysis, and material selection, while the initial planning stage of this development the researcher determines the website design draft and the selected materials based on the shop selection and needs analysis, and continues with the development stage (initial product), among others researchers starting to determine the display design of the initial page (homepage), customer page, technician page, cashier page, admin page, as well as the material on these pages.

At the stage of testing the results of application development (product validation) and revisions are carried out by media experts (design) and material experts, for the design and material of each page, namely the homepage, customer page, technician page, cashier page, and admin page. Validity testing was carried out 3 times, namely Initial validation testing, revision 1 validation testing (Initial Validation Test), and revision 2 validation testing (Final Validation Test), while product revisions included designs and materials from 1 homepage and 4 user pages, improvements were made based on criticism and suggestions from design and material validators.

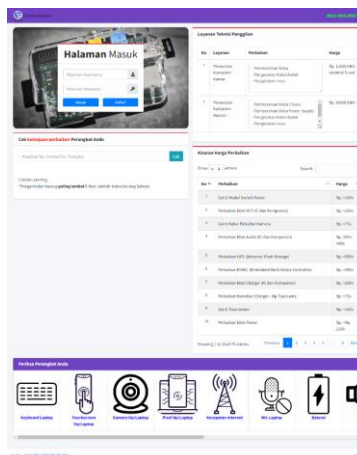
Product trials to obtain an overview of the level of feasibility of the resulting product, both product trials of revision 1 and product trials of revision 2 (final product). The results of the trial of the feasibility level of the revised product 1 will be used as a reference for the product revision stage 2. There are several things that need to be considered in product testing (product 1 trial and product trial 2), namely: (1) trial design , (2) test subjects, (3) types of data, (4) data collection instruments, and (5) data analysis techniques, which can be seen in the image below:



The test subjects (reviewers) of this application development are divided into 3, namely 2 expert validators and research subjects. Expert validators are divided into two, namely design validators and material validators, while the research subjects are 30 people divided into 4 levels of users, namely Owner, Technician, Cashier, and Customer. The data analysis technique used is quantitative descriptive analysis

RESULTS AND DISCUSSION

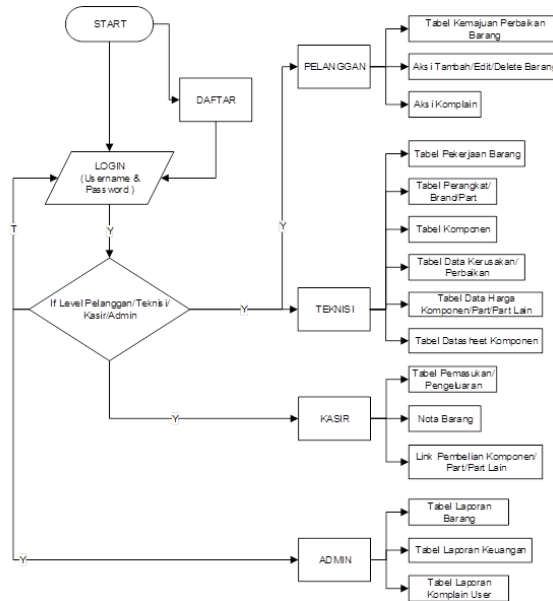
In Homepage, there is a login form, a form for checking the progress of repairing customer equipment/goods, a service information table for on-call technicians, an information table for repair price ranges, and a simulation menu for checking equipment. The address of this page is <https://trinitaelektro.website>



b). Customer Page

On the customer page display there is a menu for Add Repair items, a Repair Progress menu, Purchase History, a Complaint menu, and an Exit Button. The address of this page is <https://trinitaelektro.website/user/customer/index.php>.

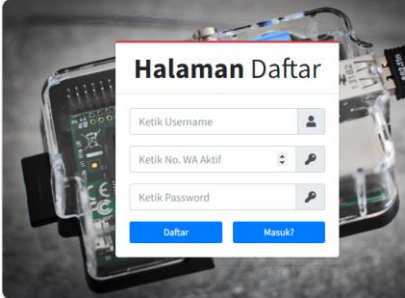

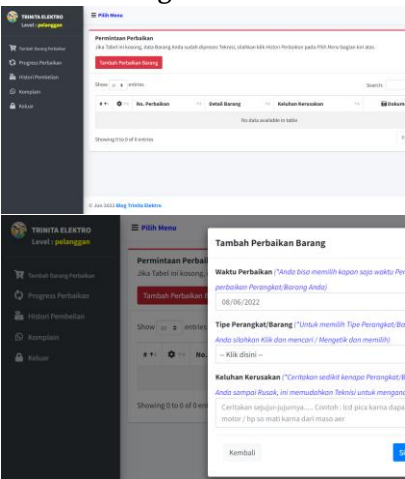
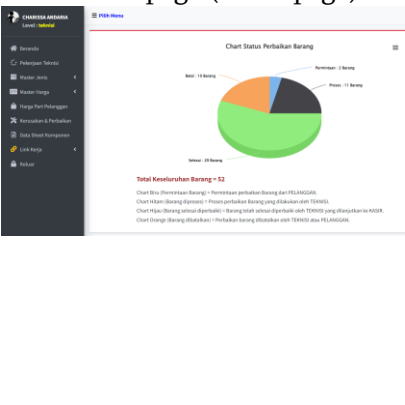
a. Application Usage Flowchart

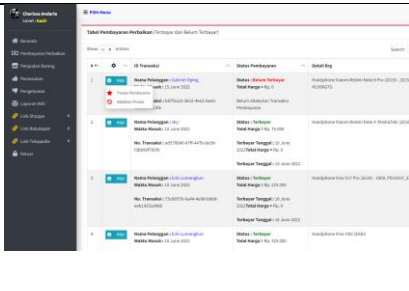
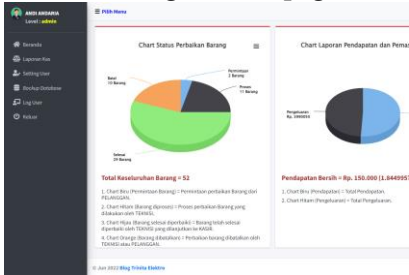


b. Application usage storyboard

Table 1. Application usage storyboard

No	Display	Description
1	Homepage (Check Your Device) 	Before submitting a request for repair of goods, the homepage can also check their own equipment according to their needs. The address of this page is https://trinitaelektro.website/
2	Homepage (Register)	People can register an account for the Customer Level on this page, by entering a username, active phone number / whatsapp, and password. The page address of this page is

		<p>https://trinitaelektro.website/index.php?&p=List</p>
3	<p>Homepage (Login)</p> 	<p>After the customer has registered, the customer can enter the username and password that was registered earlier. This page is the initial access for the Customer. The address of this page is https://trinitaelektro.website/</p>
4	<p>Customer Page</p> 	<p>This page is the customer's home / main page. When the customer logs in, the customer can make a request for repair of goods on this page.</p> <p>Customers only need to enter the time, type of goods, and complaints on the form for additional repairs. The address of this page is https://trinitaelektro.website/user/customer/index.php</p>
7	<p>Technician page (Homepage)</p> 	<p>This page is the main / start page of the Technician, there is a Goods Repair Status chart as a technician's evaluation monitor, for request item status, process status, canceled status and completed status. The chart shows the number and percentage of the work status of the goods. The address of this page is https://trinitaelektro.website/user/technician/index.php</p>
8	<p>Cashier Page (Repair Payment)</p>	<p>Is the main page / start of the cashier, contains the Repair Payment Table with paid and unpaid status, the</p>

		<p>cashier can continue the payment process for unpaid status by clicking the select payment process feature. The address of this page is https://trinitaelektro.website/user/kasir/index.php.</p>
9	<p>Administrator Page (Homepage)</p> 	<p>Is the main page / start of the cashier, contains the Repair Payment Table with paid and unpaid status, the cashier can continue the payment process for unpaid status by clicking the select payment process feature. The address of this page is https://trinitaelektro.website/user/kasir/index.php.</p>

The results of the test instrument validation from validator 1 and validator 2 can be seen in Table 2.

Table 2. Results

No.	Indicator	Expert Validator	
		1 (Content)	2 (Design)
1	I am very easy to understand this store management information system	90	90
2	I am very easy to use this store management information system	90	90
3	I easily obtain information from the store management management information system	90	90
4	I can easily access this store management information system anywhere	95	95
5	I can easily access this store management information system anytime	95	95
6	It is very easy for me to access this store management information system using a computer/laptop	95	95
7	It is very easy for me to access the store management information system using a smartphone	95	95

8	It's very easy for me to give suggestions and constructive criticism for Trinita Elektro Shop on the Complaint menu and Contact Admin	95	80
9	It is very easy for me to know the Repair Process carried out at the Trinita Store	90	90
10	I am very satisfied with the completeness of the menu available in this store management information system	70	70
11	I am very satisfied with every information on the menu - page menu provided in this store management information system	80	80
12	I am very satisfied with the data in the pages that are fully loaded in this store management information system	85	80
13	I am very satisfied with the user-friendly appearance of this store management information system	85	80
14	I am very satisfied with the Trinita Elektro Shop profile which is fully contained in this store management information system	85	85
ΣF		1240	1215
N		14	14
P (%)		88.571429	86.785714
P (%)		87.67857143	

Based on the results of instrument validation which can be seen in Table 4.4, the percentage value of validator 1 is 88.6% and the percentage value obtained from validator 2 is 86.8%. In accordance with the results of the test instrument validation from validator 1 and validator 2, it can be concluded that the overall percentage value obtained is 87.68%. If it is included in the rating scale table (Table 3), it is concluded that the results of the validation of the website-based school information system test instrument are in the very feasible category for use.

Table 3. Validation results

No.	Indicator	User Level			
		ΣT	O	K	ΣT
1	I am very easy to understand this store management information system	89	90	95	84.8
2	I am very easy to use this store management information system	89.3	90	95	86.1

Development of Electronic Business Management Information System At Trinita Elektro Manado Store

Alex C. Andaria¹, Hiskia K. Manggopa², Mario T. Parinsi³

3	I easily obtain information from the store management information system	84.7	90	88	85.4
4	I can easily access this store management information system anywhere	90	90	80	84.3
5	I can easily access this store management information system anytime	92.7	90	95	89.8
6	It is very easy for me to access this store management information system using a computer/laptop	87.7	90	90	86.4
7	It is very easy for me to access the store management information system using a smartphone	92.7	90	90	83.6
8	It's very easy for me to give suggestions and constructive criticism for Trinita Elektro Shop on the Complaint menu and Contact Admin	82.7	95	80	87.5
9	It is very easy for me to know the Repair Process carried out at the Trinita Store	89	90	80	87
10	I am very satisfied with the completeness of the menu available in this store management information system	75	90	87	85.5
11	I am very satisfied with every information on the menu - page menu provided in this store management information system	83.7	95	95	86.1
12	I am very satisfied with the data in the pages that are fully loaded in this store management information system	80	95	80	86.9
13	I am very satisfied with the user-friendly appearance of this store management information system	85	95	88	87.4
14	I am very satisfied with the Trinita Elektro Shop profile which is fully contained in this store management information system	81	95	90	86.2
ΣF		1202.3	1285	1233	1207
N		14	14	14	14
P		85.9	91.79	88.071	86.2
P Subject (%)		87.9			

Based on the assessment of the product trial results for all research subjects, which can be seen in Table 4.8, the percentage value of 87.9% was obtained. If it is included in the assessment criteria table (Table 3.1), it is concluded that the results of the validation of the website-based school information system test instrument are in the appropriate category for use.

The results of this product validation revision are in the form of product revision 1 / Product 1 which is then retested, product 1 is tested on 3 validators, namely 2 expert validators and 1 field practitioner validator (store owner), each validator provides an assessment that the business management information system This electronic device has been feasible to be tested, with some notes of suggestions and criticisms that must be corrected from the three validators (design experts, materials experts, and shop owners), the results of this product 1 revision are product 2 / product 2 revisions, then tested on 4 subjects The research, namely (owner, technician, cashier, and customer), 4 subjects of this study gave an assessment that this management information system was suitable for use within the Trinita Elektro Store, with a note that there were some suggestions related to design, namely adding navigation so that users were even faster. accessing the data, the result of product 2 revision is in the form of a final product.

The final product of this research and development is in the form of an electronic business management management information system at the Trinita Elektro Store which provides convenience in the process of repairing goods so that it has an impact on the store's income, which is directly proportional to the ease with which customers can access information on repairs to devices / goods from these customers. , an increase in service and quality of information presented. This management information system also covers the initial weakness, namely the problem of offline access, the development of this management information system website can be accessed anytime and anywhere through the website address <https://trinitaelektro.website> or www.trinitaelektro.website, either using a computer or using a computer. smartphones.

This website-based school information system is practical because of its ease of use, which can be accessed anytime and anywhere via a computer, laptop, or smartphone. Furthermore, this electronic business management information system is declared efficient because of the completeness of the information presented and the presentation of the information provided is precise and accurate. So that in obtaining the information you are looking for can save time, effort, and costs. This electronic business management information system is able to provide convenience in accessing the information needed as well as smoothness in conveying the latest, accurate, and fast information as well as improving the service and quality of information presented by the Trinita Elektro Store.

CONCLUSION

Based on the research results that have been described, several conclusions can be drawn from this study, namely: 1). The development of an electronic business management management information system is produced through a procedure consisting of 8 stages, namely: (1) data collection and initial planning; (2) product development (initial product); (3) product validation; (4) product revision 1; (5) product trial 1; (6) product revision 2; (7) trial product 2 and (8) final product (dissemination and implementation). The product assessment was carried out from the product validation stage to product revision 2, for product validation carried out by 2 expert validators consisting of 1 design expert and 1 material expert to determine the system's validity assessment, while the product trial stage was carried out by research subjects consisting of 30 people with 4 levels of users, namely owner, technician, cashier, and customer. The final product developed is an electronic business management information system that can be used as a whole in the Trinita Elektro Store environment; 2). The electronic business management information system produced is valid, practical and efficient so that it is feasible to use. The validity of this electronic business management information can be seen from the validation results by design experts and material experts. Based on this, design experts and materials experts give the percentage of

assessments in the very feasible category. As for the practicality and efficiency of the website-based school information system, it can be seen from the results of product trials by research subjects. The research subjects consisted of those who gave the percentage of assessments in the very good category. So this electronic business management information system is very suitable for use in the Tokok Trinita Elektro environment because it is valid, practical and efficient.

REFERENCES

- Alhir, Sinan. 2003. "Learning UML. O'Reilly & Associates, Inc.", Sebastopol
- Amir Hamzah, Metode Penelitian dan Pengembangan (Research and Development), (Malang: Literasi Nusantara 2020)
- Arikunto, Suharsimi 2012. Prosedur Penelitian Suatu Pendekatan Praktis. Edisi Revisi VI. Jakarta: PT. Rineka Cipta.
- Arikunto. 2015. Prosedur Penelitian Suatu Pendekatan Praktik, Jakarta: Rineka Cipta.
- Arini, N., Priyambadha, B., & Nurwarsito, H. "Pengembangan Sistem Manajemen Layanan Jasa Servis Alat Elektronik Rumah Tangga (Studi Kasus: UKM Bali Tekindo Jaya)". Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, vol. 3, no. 8, p. 7648-7656, agu. 2019. ISSN 2548-964X.
- A.F Stoner, James dan Edward Freeman (eds), Manajemen Jilid I, terj. Alexander Sindoro, Jakarta: PT Prahallindo, 1996.
- A.F Stoner, James dan Edward Freeman (eds). 1996. Manajemen Jilid I, terj. Alexander Sindoro, Jakarta: PT Prahallindo.
- Brien. James O dkk. 2011. Management Information systems 10th Edition. McGraw-Hill/Irwin
- Czaja, Sara J & Sharit Joseph. 2013. Designing Training and Instructional Programs for Older Adults. United States of America: CRC Press Taylor & Francis Group.
- Davis, Gordon B. 2013. Kerangka Dasar Sistem Informasi Manajemen. Palembang: Maxikom.
- Denns. Allan. 2015. System Analysis & Design - An Object Oriented A pproach with UML. Wiley
- Dharma, I Made Yadi., I Ngurah Gede Wiweka Naren Ananda., dan Mochamad Rizky Alzaki. "Rancang Bangun Aplikasi Pemesanan Jasa Service Komputer Berbasis Web".Jurnal Teknik Informatika, Vol. 10, No. 3, Agustus 2018
- Diana Anastasia dan Lilis Setiawati. 2011. Sistem Informasi Akuntansi. Edisi Satu. Yogyakarta : ANDI.
- Djunaidi.M. 2012. "Metode Penelitian Kualitatif". Jogjakarta: Ar-Ruzz Media
- Dr. Budiyo Sapatro, M. Pd. 2017. Manajemen Penelitian Pengembang, Research & Development Bagi Penyusun Tesis Dan Disertasi
- Fowler, Martin. 2005. UML Distilled Edisi 3. Yogyakarta: Andi.
- Gemala Rabi'ah Hatta, "Rekam Medis dan Kesehatan (Medical Records) dalam Kedudukannya sebagai Penunjang Kesehatan Nasional", dalam Berita Arsip Nasional, No. 26, Juni 1988 (Jakarta: ANRI, 1988), hlm. 8.
- Gronlund, Norman E. dan Robert L. Linn. (1990). Measurement and Evaluation in Teaching. New York: ?Vlacmillan Publishing Company.
- Hiskia Kamang Manggopa, Christine Takarina Meitty Manoppo, Peggy Veronica Togas, Alfrina Mewengkang, & Johan Reimon Batmetan 2019 Web-based learning media using hypertext markup language as course materials

- I Made Yadi Dharma 1), I Ngurah Gede Wiweka Naren Ananda 2), dan Mochamad Rizky Alzaki³). 2018 RANCANG BANGUN APLIKASI PEMESANAN JASA SERVICE KOMPUTER BERBASIS WEB
- James A. O'brien, George M. Marakas, "Management Information Systems, 10.Ed" 2011
- James A.F. Stoner (1982), Management, edisi kedua, New York, Prentice/Hall International, Inc., Englewood Cliffs
- Jurnal Akuntansi & Ekonomika, Vol. 10 No. 1, Juni 2020 dengan judul The Survival Strategy Of Smes During The Covid-19 Pandemic
- Journal of Economics Vol. 5, No. 1, December 2020 dengan judul "Strategi UMKM untuk Meningkatkan Perekonomian selama Pandemi Covid-19 pada saat New Normal"
- Kadir Abdul. 2014. "Pengenalan Sistem Informasi Edisi Revisi", Yogyakarta : Andi
- Krismiaji. 2015. "Sistem Informasi Akuntansi edisi ketiga". Yogyakarta: unitpenerbit dan Sekolah Tinggi Ilmu YKPN.
- Krismaji. 2015. "Perancangan Sistem Informasi Dan Sistem informasinya". Yogyakarta: Penerbit Gava Media.
- Kroenke, David, 1989, Management Information System, Mc. Graww hill.
- Leod Jr., Raymod Mc. (1996). Sistem Informasi Manajemen. Jilid I. Jakarta: Bhuana Ilmu Populer.
- Laudon, Kenneth C., and Jane P. Laudon. 2014. "Management Information Systems".
- Meredith D. Gall., Joyce P. Gall., Walter R. Borg., 2003. Educational Research - An Introduction. Pearson Education.Inc
- Miles. R and Hamilton. K.2006. "Learning UML 2.0", 1st ed, California: O'Reilly Media
- Mulyadi. (2016). Sistem Informasi Akuntansi. Jakarta: Salemba Empat.
- Mulyanto Agus. 2009. "Sistem Informasi Konsep dan Aplikasi". Yogyakarta. Pustaka Pelajar.
- Nana Syaodih Sukmadinata, "Metode Penelitian Pendidikan", Bandung: Remaja Rosdakarya 2012
- Ni Luh Irma Arini, Bayu Priyambadha, Heru Nurwasito "Pengembangan Sistem Manajemen Layanan Jasa Servis Alat Elektronik Rumah Tangga (Studi Kasus: UKM Bali Tekindo Jaya)" Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputere-ISSN: 2548-964X Vol. 3, No. 8, Agustus 2019, hlm. 7648-7656
- Ni Luh Irma Arini¹, Bayu Priyambadha², Heru Nurwasito³ 2019 Pengembangan Sistem Manajemen Layanan Jasa Servis Alat Elektronik Rumah Tangga (Studi Kasus: UKM Bali Tekindo Jaya)
- Parinsi, M. T., Mewengkang, A., & Rantung, T. (2021). PERANCANGAN SISTEM INFORMASI SEKOLAH DI SEKOLAH MENENGAH KEJURUAN. *Edutik: Jurnal Pendidikan Teknologi Informasi dan Komunikasi*, 1(3), 227-240.
- Prastomo Andi. 2014. "Sistem Informasi Pelayanan Jasa Perbaikan Peralatan Elektronik Cv Sumber Teknik Cool". Jakarta. *Faktor Exacta* 7(4): 305-316, 2014 ISSN: 1979-276X.
- Riduwan. 2005. "Skala Pengukuran Variable Penelitian". Bandung : Alfabeta.
- Romney, Marshall B. dan Steinbart, (2015), "Sistem Informasi Akuntansi", Edisi 13, alihbahasa: Kikin Sakinah Nur Safira dan Novita Puspasari, Salemba Empat, Jakarta.
- Rusdiana, H. A., dan Moch Irfan. 2014. "Sistem Informasi Manajemen"
- Sutabri Tata. 2013. Analisis Sistem Informasi. Andi. Yogyakarta
- Sugiyono. 2014. Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif & RND). Bandung: Alfabeta.
- Sommerville, Ian. 2011. Software Engineering (Rekayasa Perangkat Lunak). Jakarta: Erlangga.

- Sukenda, dkk. (2013). Pengembangan Aplikasi Multimedia Pengenalan Pemanasan Global dan Solusinya Menggunakan Pendekatan ADDIE. Seminar Nasional Sistem Informasi Indonesia. Bandung: SESINDO.
- Sugiyono. 2013. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.
- Sugiyono. 2013. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.
- Saputro Budiyono, "Manajemen Penelitian Pengembangan (Research & Development) bagi penyusun Tesis dan Disertasi", Aswaja Pressindo 2011
- Sugiyono. 2017. "Metode Penelitian Kuantitatif, Kualitatif, dan R&D". Bandung : Alfabeta, CV.
- Sudijono Anas. 2011. "Pengantar Evaluasi Pendidikan." Jakarta: Rajawali Pers
- Tegeh, Made Dkk.2014. Model Penelitian Pengembangan. Yokyakarta: Graha Ilmu.