

Financial Management System Integrated by Web-Based Payment Cash Link Solution to Invent Smart Reconciliation

Untung Rahardja¹, Qurotul Aini², Nuke Puji Lestari Santoso³, Marviola Hardini⁴, Aulia Edliyanti⁵

^{1,2,3,4}Master of Information Technology Department, ⁵Student of Computer Accounting Department

University of Raharja
Tangerang, Indonesia

¹untung@raharja.info, ²aini@raharja.info, ³nuke@raharja.info, ⁴marviola@raharja.info,
⁵aulia.edliyanti@raharja.info

Abstract

The latest information should be able to do things efficiently and quickly. Accounting has an essential role in a company that is financial and administrative reports. This requires accurate data and real-time financial reports between cashier data and bank statements. It is called Reconciliation. However, there were 2 (two) problems identified in the University of Raharja, the Reconciliation, which is conventional, and the report was not real-time. The problem can lead to errors and requires very high accuracy. To expedite an accurate report also data to superiors, a feature in online accounting software that Invents smart Reconciliation is needed. The existence of innovation resolves these problems by automatically activating the online accounting software's reconciliation feature using Cash links. Cash links are automatically smart reconciliations. There are 7 (seven) literature reviews as the research method used in this study to solve the problems. Smart Reconciliation is expected; accountants can collaborate with the disruptive era to significantly impact the company. So, financial reports can be published in real-time and accurately and motivate the accountants to improve administrative reports.

Keywords

Financial, Reconciliation, Cash Link, Online Accounting.

1. Introduction

A financial system company or called administration is often considered a hassle (Aini, Riza Bob, et al., 2020b; Williams & Dolan, 2020). The difficulty of manual reporting is also quite difficult for accountants to complete the report. The existence of leadership styles, competencies, work motivations, and good performance from university impact (Henderi et al., 2020) on the success of accreditation (Aini et al., 2020; Supriagi et al., 2020). Various kinds of findings are supported by evolving innovations from technology that have led to development (Sudaryono, Rahardja, & Lutfiani, 2020). Not only that, the cause and effect of periodic, integrated, and structured evaluations are then carried out continuously in University (Yaniaja et al., 2020). The need for an information system that is designed to be mutually integrated is undoubtedly needed more with the development of time (Sokibi et al., 2020). It has a sensitive administrative scope in a company or University, especially about finance, which is very risky in privacy. Then it takes a presentation of information that can display concisely, effectively, and efficiently so that it is easy to understand (Aini, Riza Bob, et al., 2020a). There is a need for system development and relevant data for learning and work experience (Sudaryono, Rahardja, & Masaeni, 2020). The thing that is done by accountants regarding the Higher Education transaction adjustment process is critical because, with the existence of Higher Education (Sudaryono et al., 2019), transaction records can monitor the list of incoming and outgoing money by adjusting it to the checking account to minimize losses to the company (Aini, Badrianto, et al., 2020). The transaction adjustment process, both out and in, is called reconciliation. Reconciliation is a process of financial adjustment or matching of transaction data processed with several different systems based on documents from the same source. Reconciliation can also be interpreted as an activity detailing the differences in bank transaction records as transaction managers and records held

by the company with the Bank in the form of a checking account (Mardiana et al., 2019). All transactions that have been carried out during the specified period will be seen in the reconciliation process. If a difference is found, the accountant will make an adjustment journal using evidence that is considered (Chandra et al., 2020) valid and valid. With the accountants' reconciliation, the company can view and adjust the Bank's bank statement with the company's bank account. However, at the University, the reconciliation process still uses a conventional system (Yetmi & Ahdiyatiningsih, 2020), where the accountant must check the Bank's checking account one by one to be equated with the company's current report. The bank statement obtained is still to be downloaded from m-banking (Alam, 2020)(Prawira et al., 2019). This is undoubtedly very ineffective because it can hamper the performance (Rahardja, Lukita, et al., 2020) of its accountants. The hindered reconciliation process will cause an accountant's performance to be not optimal (Kusnadi et al., 2020), (Lukita et al., 2020). The performance of an accountant who is not optimal will make the whole job of an accountant fall apart. However, with Online Accounting Software, these problems can be resolved. In Online Accounting Software where there is a feature called Cash Link. Cash Link is a feature found in the Online Accounting Software used in conducting reconciliation per transaction recorded in the Journal, such as payment for sales and purchases. Cash Mapping can be used to reconcile all cost transactions in Bank transfers that have not been recorded in the Bank so that the reconciliation process can be done online and efficiently and improve accountants' performance. In this Online Accounting Software, automatic bank reconciliation is between a newspaper account and a Receive payment (received payment) included in the Online Accounting Software.

2. Literature Review

This study uses an observation method to collect data by observing or reviewing directly at the research location. Research carried out at University, which converged the accounting department that carried out the reconciliation process by a manual method by downloading a checking account from m-banking, thus hampering the accountant's performance in the reconciliation process and doing other work. So we need a system that facilitates the completion of performance (Rahardja, Kosasi, et al., 2020). The existing and related researches become a reference for the achievement of this research. There are 7 (seven) literature studies that researchers use as information for this study, including:

1. This study discusses that the current era of globalization requires a computerized online system to reduce the risk of losing important data and facilitating the reconciliation process so that it is virtually in the process of accounting for the company's financial statements (Sunarya et al., 2017).
2. The research entitled "IMPLEMENTATION OF RECONCILIATION TRANSACTIONS IN THE SECOND GENERATION STATE RECEIPT MODULE" in this study discusses the process of transaction reconciliation through the reconciliation portal resulting in 4 types of data criteria, namely match, CA Only, SA Only, and failed. With these four criteria, the reconciliation process can run efficiently and effectively and be recorded in the settlement system. The research conducted by (Sumantri & Ni'ma, 2018).
3. The next research entitled "ANALYSIS OF RECONCILIATION PROCESSES ON BANJARMASIN STATE TREASURY SERVICE OFFICE (KPPN) BANJARMASIN" was carried out by Saifhul Anuar Syahdan and Jarir Al Amjad. This study aims to analyze the reconciliation process which is part of the General Accounting System implemented by the Banjarmasin State Treasury Service Office (KPPN) and assesses compliance with the regulations that form the basis of creation. (Syahdan and Al Amjad 2016)
4. This study performs asset management with an online accounting system to obtain an updated and real-time report on accumulated depreciation of assets. The import feature on the system makes it easier for companies to input large amounts of asset data. The final result is that the company's entire asset management data is recorded correctly and synchronously on the input and output (Supriati et al., 2017).
5. The study Monitoring the performance of admin student financial services on an agency's Web-Based Accounting Online must be done so that its performance can be seen. Dashboards on Web-Based Accounting Online can be used to monitor admin performance. With this research, to monitor employee performance as admin on Web-Based Accounting Online, it is expected that they can work optimally and not make mistakes that harm both parties. This study conducted by (Aini, Rahardja, et al., 2020)
6. At PT. Arbunco Wira Pandega found no system could accommodate all sales activities and financial reports in an online system. According to company expectations, a website-based sales plan is created that links from one process to another to produce fast and useful reports. Was researched by (Saputro et al., 2020),
7. The research with the title "ANALYSIS OF E-RECONSTRUCTION APPLICATION ON RECONCILIATION OF FINANCIAL STATEMENTS IN THE REGIONAL OFFICE OF THE DIRECTORATE GENERAL OF STATE PROVINCE OF THE STATE PROVINCE" explained that to realize an effective, efficient Central

Government Financial Report, accurate, accountable, and transparent, Online Reconciliation System is needed to facilitate the Regional Government, State Ministry / Institution and Regional Office of the Directorate General of Budget Financing. This study aims to investigate the reconciliation process using electronic reconciliation applications (e-Rekon-LK). The research conducted by (Oflagi et al., 2018)

Of the 7 (seven) literature reviews, that reconciliation is very influential on financial statements. Experience reconciliation can be done easily, quickly, and accurately. Moreover, the University implements an online payment system (Aini et al., 2019). In the follow-up to the research described above, the researcher researched automatic reconciliation with Online Accounting Software at Universities.

3. Methods

Based on 2 (two) problems in presenting financial/administrative reports manually and the timeliness of reports to the leader. So the flow of the organizational structure is not good. Besides that, it allows for a long time to match data. However, at the University, the above has not been achieved. The manual process is still done and involves many people to run long and challenging (Pranata et al., 2020).

The Accountant also has a long time to match the bank book with the financial statement data every day (Dwi et al., 2020). Thus, the Accountant's performance is not optimal in completing the report of every month, apart from the nature of a service that requires IT to increase effectiveness and productivity towards more important than the reach of business globalization (Watini, Aini, Khoirunisa, et al., 2020).

There needs to change, including presenting information forms, starting from conventional ways to being modern to facilitate and be understood by readers in understanding the information presented (Aini et al., 2020), (Watini, Aini, Hardini, et al., 2020).

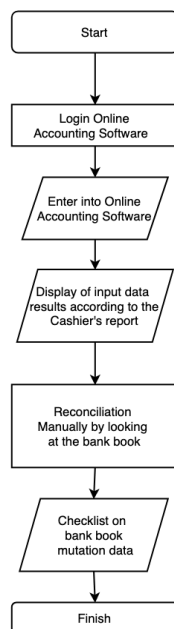


Figure 1. The reconciliation flowchart is running

The Above picture is a flowchart of the reconciliation carried out by the Accountant manually, namely by looking at bank book mutations with data that has been inputted into the Online Accounting Software.

4. Results and Discussion

The problems explained in the flowchart above can be minimized by issues such as Cash Activation Link on Direct Feeds feature in the Online Accounting Software, which is integrated or connected with an online Bank Book. So that with the Cash Link Reconciliation is done automatically by the Online Accounting Software with the Cash Link Reconciliation is done automatically by the Online Accounting Software.

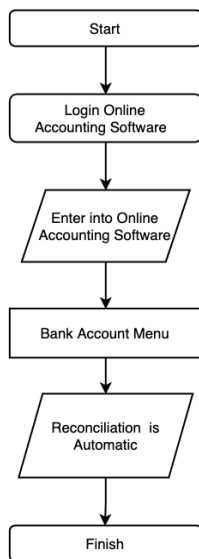


Figure 2. Flowchart the proposed system

The proposed system in Figure 2 explains that the reconciliation is done automatically or called smart reconciliation. That is by activating the direct feeds feature in Cash Link on online accounting software so that accountants' work becomes more comfortable.

Daftar Akun Kas

Tampilkan Arsip Akun

Kode Akun	Nama Akun
Kas dan Bank	
1-10001	Kas
1-10002	Rekening Bank
1-10003	Bank Transfer
1-10004	Bank Mandiri

Figure 3. Register Account in online accounting software

The Cash Link on the Online Accounting Software is to minimize the problems, i.e., the time in reconciliation by the Accountant.

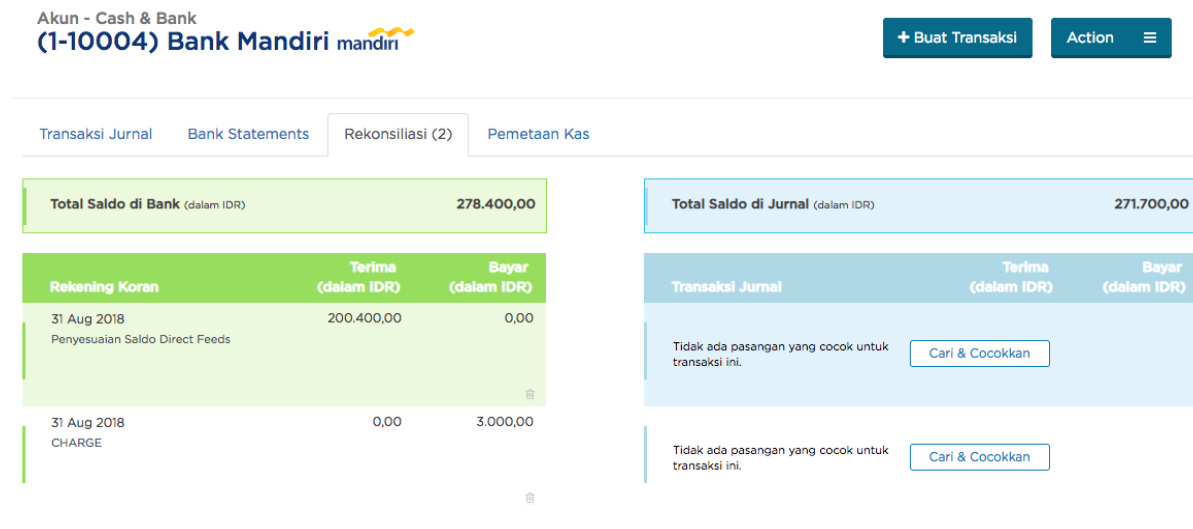


Figure 4. Automatic reconciliation

Figure 4 is Cash Link that has the Direct Feeds feature active in Online Accounting Software. This feature is connected between Bank Books and Direct Feeds features on Online Accounting Software as Automatic Reconciliation.

The activation of the Direct Feeds feature, referred to as Cash Link, can provide significant benefits to Accountants in monthly financial administration reconciliation. Also, the reconciliation time does not need to take a long time because it has been automatically so that the report to the manager/leader can be on time.

4.1 How to activate Cash Link

Reconciliation is one of the keys to the effort to develop credible financial statements. Reconciliation is also a process to ensure that both parties have correctly recorded all transactions before preparing financial statements.

Cash Link is a feature found in the Online Accounting Software used in reconciliation per transaction that has been recorded in a journal such as payment for sales and purchases. The first stage of Cash Link activation is the activation of Direct Feeds on Bank Accounts that will be integrated.



Figure 5. Install *Direct Feeds*

Figure 5 explains the initial steps by installing direct feeds in the intended Bank account.

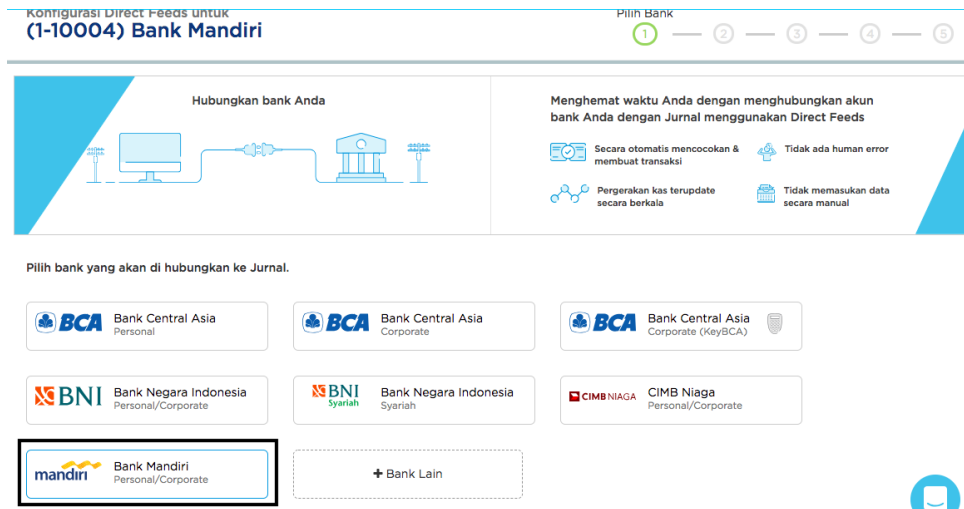


Figure 6. Configuration to choose the destination bank

In the Direct Feeds configuration, you choose the bank that you want to reconcile automatically.

Figure 7. Registration Form

Can be seen on the bank account menu, there is the bank logo and bank mutations will be automatically active.

Akun - Cash & Bank
(1-10004) Bank Mandiri mandiri

+ Buat Transaksi Action

Transaksi Jurnal Bank Statements Rekonsiliasi (2) Pemetaan Kas

Cari

<input type="checkbox"/>	Tanggal	Kontak	Deskripsi	Terima (dalam IDR)	Kirim (dalam IDR)	Saldo (dalam IDR)	Status
<input type="checkbox"/>	16/08/2018		Bank Transfer #10001 <i>Transfer dari Akun: Jurnal Payment Service Escrow</i>	81.000,00	0,00	81.000,00	Terekonsiliasi
<input type="checkbox"/>	21/08/2018		Bank Transfer #10002 <i>Transfer dari Akun: Jurnal Payment Service Escrow</i>	45.100,00	0,00	126.100,00	Belum Terekonsiliasi <i>Rekonsiliasi Sekarang</i>
<input type="checkbox"/>	23/08/2018		Bank Transfer #10003 <i>Transfer dari Akun: Jurnal Payment Service Escrow</i>	105.000,00	0,00	231.100,00	Belum Terekonsiliasi <i>Rekonsiliasi Sekarang</i>
<input type="checkbox"/>	24/08/2018		Bank Transfer #10004 <i>Transfer dari Akun: Jurnal Payment Service Escrow</i>	25.300,00	0,00	256.400,00	Belum Terekonsiliasi <i>Rekonsiliasi Sekarang</i>
<input type="checkbox"/>	05/09/2018		Bank Transfer #10005 <i>Transfer dari Akun: Jurnal Payment Service Escrow</i>	15.300,00	0,00	271.700,00	Belum Terekonsiliasi <i>Rekonsiliasi Sekarang</i>

Figure 8. The Display of a Bank Account with details of the data of the income transaction.

Figure 8 is the transaction data that has made payments and entered into the Bank Account as the receipt. The description in the picture explains one settlement of several payment details from the Receive Payment.

Akun - Cash & Bank
(1-10004) Bank Mandiri mandiri

+ Buat Transaksi Action

Transaksi Jurnal Bank Statements Rekonsiliasi (2) Pemetaan Kas

Memperlihatkan Transaksi Rekening

Cari

<input type="checkbox"/>	Tanggal	Deskripsi	Terima (dalam IDR)	Kirim (dalam IDR)	Saldo (dalam IDR)	Sumber	Status
<input type="checkbox"/>	16/08/2018	Bank Transfer 10001	81.000,00	0,00	81.000,00	System	Reconciled
<input type="checkbox"/>	31/08/2018	Penyesuaian Saldo Direct Feeds	200.400,00	0,00	281.400,00	System	Not Reconciled
<input type="checkbox"/>	31/08/2018	CHARGE	0,00	3.000,00	278.400,00	Direct Feed	Not Reconciled

Figure 9. Connected Account Book Movements

Figure 9 is the Account book mutation that has been connected during Direct Feeds activation. To adjust during the reconciliation process.

Transaksi Jurnal Bank Statements Rekonsiliasi (2) Pemetaan Kas

Total Saldo di Bank (dalam IDR)	278.400,00		Total Saldo di Jurnal (dalam IDR)	268.700,00	
Rekening Koran	Terima (dalam IDR)	Bayar (dalam IDR)	Transaksi Jurnal	Terima (dalam IDR)	Bayar (dalam IDR)
31 Aug 2018	200.400,00	0,00	Tidak ada pasangan yang cocok untuk transaksi ini.		
Penyesuaian Saldo Direct Feeds			<input type="button" value="Cari & Cocokkan"/>		
31 Aug 2018	0,00	3.000,00	31 Aug 2018	0,00	3.000,00
CHARGE			Bank Withdrawal #10001		
		<input type="button" value="Cocokkan"/>			

Batalkan dan cocokkan dengan transaksi lain

Figure 10. Reconciliation

The picture above is a process when you want Reconciliation. Bank Book mutation data with transaction data in online accounting software will be matched according to the same data.

Tanggal	Terima (IDR)	Bayar (IDR)	Deskripsi	Akun	Tarif Pajak
31 Aug 2018	200.400,00	-	Penyesuaian Saldo Direct Feeds	Pilih akun	Pilih pajak
31 Aug 2018	-	3.000,00	CHARGE	(6-60600) - Bi...	Select tax

Figure 11. Cash Mapping

Tanggal	Kontak	Deskripsi	Terima (dalam IDR)	Kirim (dalam IDR)	Status
16/08/2018		Bank Transfer #10001 <small>Transfer dari Akun: Jurnal Payment Service Escrow</small>	81.000,00	0,00	Terekonsiliasi

Figure 12. Data that has been reconciled

Figure 12 is the transaction data that has been reconciled, meaning that the transaction is the same as the bank book mutation in the account.

The implementation results are activated directly feed on the Online Accounting Software from the accountant's side to match the income and expenditure finances. Collaboration development will support by improving the quality of infrastructure, connectivity, and integrity (Setiawan et al., 2018). The infrastructure without technology and a dissertation on resources will not run well, even optimally, which will be used optimally (Adiyarta et al., 2018).

The convenience for accountants in reconciliation using direct feeds or cash link features with just one click match without downloading a checking account and then manually match it to the Online Accounting Software. Also, data that has been reconciled cannot be accurately filtered, like the use of Google sheet in which there are mathematical and statistical operating formulas that can reduce calculation errors and accurate accuracy. One of the benefits of the internet's existence as an unlimited source of information. Besides, there is support regarding improving the quality of an organization that can enhance the organization's development.

5. Conclusion

From this research, there are 2 (two) problems; the problem is solved using 7 (seven) research methods so that 2 (two) conclusions can be drawn, i.e., Cash Link is a smart reconciliation on Online Accounting Software by automatically matching bank book mutations. Moreover, the Cash Link on online accounting software can help accountants in the reconciliation process reduce errors and work effectively and efficiently, as well as reports on financial management to leaders can be done in real-time, accurate, and able to motivate the accountant itself.

References

Adiyarta, K., Napitupulu, D., Rahim, R., Abdullah, D., & Setiawan, M. I. (2018). Analysis of e-learning implementation readiness based on integrated elr model. *Journal of Physics: Conference Series*, 1007(1),

12041.

- Aini, Q., Anoesyirwan, A., & Ana, Y. (2019). Effect of Cloud Accounting as income statement on Accountant Performance. *Aptisi Transactions On Management*, 4(1), 13–21.
- Aini, Q., Badrianto, A., Budiarty, F., Khoirunisa, A., & Rahardja, U. (2020). Alleviate Fake Diploma Problem In Education Using Block Chain Technology. *Journal of Advanced Research in Dynamical and Control Systems*, 12(2), 1821–1826. <https://doi.org/10.5373/JARDCS/V12I2/S20201225>
- Aini, Q., Budiarto, M., Hadi Putra, P. O., Khoirunisa, A., Santoso, N. P. L., & Rahardja, U. (2020). Gamified education practice: Designing with e-commerce and ilearning concept. *International Journal of Psychosocial Rehabilitation*, 24(7). <https://doi.org/10.37200/IJPR/V24I7/PR270799>
- Aini, Q., Gunawan, I., Faturahman, A., Santoso, N. P. L., & Rahardja, U. (2020). Digital Signature System Using SHA-256 Encryption in a Web Application. 12(02). <https://doi.org/10.5373/JARDCS/V12I2/S20201302>
- Aini, Q., Rahardja, U., Aisyah, E. S., & Khoirunisa, A. (2020). Performa Kinerja Admin Layanan Keuangan Mahasiswa Menggunakan Dashboard Pada Web Based Accounting Online. *Informatika Mulawarman: Jurnal Ilmiah Ilmu Komputer*, 15(1), 21–26.
- Aini, Q., Riza Bob, S., Santoso, N. P. L., Faturahman, A., & Rahardja, U. (2020a). Digitalization of Smart Student Assessment Quality in Era 4.0. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(1.2), 257–265. <https://doi.org/10.30534/ijatcse/2020/3891.22020>
- Aini, Q., Riza Bob, S., Santoso, N. P. L., Faturahman, A., & Rahardja, U. (2020b). Digitalization of Smart Student Assessment Quality in Era 4.0. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(1.2), 257–265. <https://doi.org/10.30534/ijatcse/2020/3891.22020>
- Alam, T. (2020). Cloud Computing and its role in the Information Technology. *LAIC Transactions on Sustainable Digital Innovation (ITSDI)*, 1(2), 108–115.
- Chandra, L., Amroni, Frizca, B., Aini, Q., & Rahardja, U. (2020). Utilization Of Blockchain Decentralized System In Repairing Management Of Certificate Issuance System. *Journal of Advanced Research in Dynamical and Control Systems*, 12(2), 1922–1927. <https://doi.org/10.5373/JARDCS/V12I2/S20201235>
- Dwi, R., Wulandari, S., & Khasanah, D. N. (2020). Web-Based Logistic Demand Information System Design At Raharja University. *ADI Journal on Recent Innovation (AJRI) The 1st Edition Vol 1. No 1. September 2019*, 1(1), 79–84.
- Henderi, Aini, Q., Santoso, N. P. L., Faturahman, A., & Rahardja, U. (2020). A proposed gamification framework for smart attendance system using rule base. *Journal of Advanced Research in Dynamical and Control Systems*, 12(2), 1827–1838. <https://doi.org/10.5373/JARDCS/V12I2/S20201226>
- Kusnadi, Lukita, C., Lutfiani, N., Lutfilah Juniari, H., & Rahardja, U. (2020). Miu ai: Application based on the e-commerce prototype for japanese otaku in indonesia. *Journal of Advanced Research in Dynamical and Control Systems*, 12(6), 618–623. <https://doi.org/10.5373/JARDCS/V12I6/S20201071>
- Lukita, C., Hatta, M., Harahap, E. P., & Rahardja, U. (2020). Crowd funding management platform based on block chain technology using smart contracts. *Journal of Advanced Research in Dynamical and Control Systems*, 12(2). <https://doi.org/10.5373/JARDCS/V12I2/S20201236>
- Mardiana, M., Lutfiani, N., & Saga, R. S. (2019). The Online Sales Application Of Black And White Print Based On Yii Framework On Higher Education E-Commerce Website. *Aptisi Transactions On Technopreneurship (ATT)*, 1(2), 118–127.
- Oflagi, J. G., Manossoh, H., & Walandouw, S. K. (2018). Analisis Aplikasi E-Rekon-LK terhadap Rekonsiliasi Laporan Keuangan pada Kantor Wilayah Direktorat Jenderal Perbendaharaan Negara Provinsi Utara. *GOING CONCERN: JURNAL RISET AKUNTANSI*, 13(02).
- Pranata, S., Suhada, H., Aini, Q., Rahardja, U., & Amrikhasanah, O. G. (2020). I learning management system using shari'a gamification method for qur'an hafiz. *Journal of Advanced Research in Dynamical and Control Systems*, 12(2), 2532–2540. <https://doi.org/10.5373/JARDCS/V12I2/S20201301>
- Prawira, M., Sukmana, H. T., Amrizal, V., & Rahardja, U. (2019). A Prototype of Android-Based Emergency Management Application. *2019 7th International Conference on Cyber and IT Service Management, CITSM 2019*. <https://doi.org/10.1109/CITSM47753.2019.8965337>
- Rahardja, U., Kosasi, S., Harahap, E. P., & Aini, Q. (2020). Authenticity of a diploma using the blockchain approach. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(1.2 Special Issue), 250–256. <https://doi.org/10.30534/IJATCSE/2020/3791.22020>
- Rahardja, U., Lukita, C., Andriyani, F., & Masaeni. (2020). Optimization of marketing workforce scheduling using metaheuristic genetic algorithms. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(1.2 Special Issue), 243–249. <https://doi.org/10.30534/IJATCSE/2020/3691.22020>
- Saputro, J. I., Nissa, N. K., & Yulandha, N. (2020). Design Information System Accounting Sales Website-Based (

- Case Study : PT Arbumco Wira Pandega). 4(July), 158–168.*
- Setiawan, M. I., Surjokusumo, S., Ma'soem, D. M., Johan, J., Hasyim, C., Kurniasih, N., Sukoco, A., Dhaniarti, I., Suyono, J., & Sudapet, I. N. (2018). Business Centre Development Model of Airport Area in Supporting Airport Sustainability in Indonesia. *J. Phys. Conf. Ser.*, 954(1), 12024.
- Sokibi, P., Asfi, M., Aini, Q., Khoirunisa, A., & Rahardja, U. (2020). Ltai management based on blockchain technology to increase alexa rank. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(4), 4798–4802. <https://doi.org/10.30534/ijatcse/2020/88942020>
- Sudaryono, Lutfiani, N., Suseno, & Aini, Q. (2019). Empirical Study of Research Performance Leading to Education 4.0 using the iLearning Method. *International Journal of Advanced Trends in Computer Science and Engineering*, 8(1.5), 264–268. <https://doi.org/10.30534/ijatcse/2019/4681.52019>
- Sudaryono, Rahardja, U., & Lutfiani, N. (2020). The Strategy of Improving Project Management Using Indicator Measurement Factor Analysis (IMF) Method. *Journal of Physics: Conference Series*, 1477(3). <https://doi.org/10.1088/1742-6596/1477/3/032023>
- Sudaryono, Rahardja, U., & Masaeni. (2020). Decision Support System for Ranking of Students in Learning Management System (LMS) Activities using Analytical Hierarchy Process (AHP) Method. *Journal of Physics: Conference Series*, 1477(2). <https://doi.org/10.1088/1742-6596/1477/2/022022>
- Sumantri, J., & Ni'ma, V. D. (2018). PELAKSANAAN REKONSILIASI TRANSAKSI PADA MODUL PENERIMAAN NEGARA GENERASI KEDUA. *JURNAL PAJAK INDONESIA (Indonesian Tax Journal)*, 1(2), 67–82.
- Sunarya, P. A., Nurhaeni, T., & Haris, H. (2017). Bank Reconciliation Process Efficiency Using Online Web Based Accounting System 2.0 in Companies. *Aptisi Transactions On Management*, 1(2), 124–129.
- Supriagi, N., Hidayat, T. M., & Ahmad, A. D. A. R. (2020). Pendidikan Manufaktur Berbasis Gamifikasi Untuk Meningkatkan Inovasi Di Era Industri 4.0. *ADI Pengabdian Kepada Masyarakat*, 1(1), 14–21.
- Supriati, R., Aryani, D., & Maesaroh, S. (2017). Asset Management Using a Web-Based Accounting Online System To Maintain Value of Company Assets. *Aptisi Transactions On Management*, 1(1), 31–37.
- Syahdan, S. A., & Al Amjad, J. (2016). Analisis Proses Rekonsiliasi pada Kantor Pelayanan Perbendaharaan Negara (KPPN) Banjarmasin. *Jurnal Manajemen Dan Akuntansi*, 13(1).
- Watini, S., Aini, Q., Hardini, M., & Rahardja, U. (2020). Improving Citizen's Awareness in Conserving Diversity of Malay Traditional Dances in Malaysia through the Art Appreciation Performed by Students of Early Childhood Education Study Program. *International Journal of Psychosocial Rehabilitation*, 24(8), 2730–2737. <https://doi.org/10.37200/IJPR/V24I8/PR280292>
- Watini, S., Aini, Q., Khoirunisa, A., & Rahardja, U. (2020). Assessment System for Testing the Evaluation of Diversity in Traditional Malay Dance by Early Childhood Students. *International Journal of Psychosocial Rehabilitation*, 24(8), 2721–2729. <https://doi.org/10.37200/IJPR/V24I8/PR280291>
- Williams, A., & Dolan, E. (2020). Development Based on Cloud Accounting as Accountant Reconciliation Media on Collage. *IAIC Transactions on Sustainable Digital Innovation (ITSDI)*, 1, 185–196. <https://doi.org/10.34306/itsdi.v1i2.151>
- Yaniaja, A. K., Wahyudrajat, H., & Devana, V. T. (2020). Pengenalan Model Gamifikasi ke dalam E-Learning Pada Perguruan Tinggi. *ADI Pengabdian Kepada Masyarakat*, 1(1), 22–30.
- Yetmi, Y. S., & Ahdiyatiningsih, N. (2020). The Model of Empowering Poor Women Based on Creative Economy and Local Age. *Aptisi Transactions On Technopreneurship (ATT)*, 2(1), 75–86.

Biography / Biographies

Untung Rahardja or often called UR is a graduate of the University of California Berkeley in America, followed by the Information Technology Masters Study Program at the University of Indonesia. UR has completed his Master of Management education at the Persada Indonesia University YAI. He is an example of a formidable figure, with his daily activities in education and preparing as a teaching lecturer and a supervisor in Information Management by teaching 15+. During his 25 years as an educator, he has had a lecturer certification with an available head lecturer position. At Tridarma Research, he is active in writing scientific papers published in national and international reputation. There are 10+ book creations published in Gramedia and Andi Offset, 200+ scientific journals indexed by Google Scholars, and <30 + journals indexed by SCOPUS and have also been a reviewer in 10+ scientific journals. There are 10+ Patents & Copyrights and 10+ Awards that have been obtained, one of which is receiving an award

from the Minister of Research and Technology of the National Innovation Research Agency (Ristek-Brin) of the Republic of Indonesia as the 500 Best Researchers based on the Science and Technology Index (SINTA) Years 2020.

Qurotul Aini is a lecturer in the field of information technology. Obtained a master's degree from University of Raharja in 2016 and is currently pursuing a doctoral program in computer science at the University of Technology Malaysia. To date, she has 125 research studies in Gamification Blockchain, Business Intelligence, Internet, and E-Commerce, which have been published around the world. She is an active speaker for various national and international conferences.

Nuke Puji Lestari Santoso is a Master of Information Technology student from University of Raharja. Currently she has 16 scientific articles in Google Scholar, and 4 journal Scopus. The research fields he is interested in are Blockchain, Gamification, Accounting, Business Intelligence, Cloud Computing which have been published several times.

Marviola Hardini, who is often called Vio, has earned her S.Kom degree by taking a Bachelor degree (Strata One) at one of the universities in Tangerang City, namely Raharja University and taking an IT (Informatics Engineering) study program with a concentration of MAVIB (Multimedia Audio Visual and Broadcasting). Currently, he has conducted 13 research studies, including 7 international research studies, discussing Blockchain technology

Aulia Edliyanti is a graduate of Diploma 3 in Computerized Accounting in 2021 at University of Raharja. During her study, Aulia was active in writing scientific articles, as evidenced by three scientific publications that have been indexed by Sinta and 1 Scopus. In google scholar, Aulia has H-index 1. She was having an interest in accounting, gamification, and e-commerce.