

ANALYSIS THE IMPACT OF SILVIA APPLICATION IMPLEMENTATION ON THE EFFICIENCY AND EFFECTIVENESS OF PNBP CONTRIBUTIONS IN BPH MIGAS

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Abstract

This study aims to examine the impact of the SILVIA application implementation on the efficiency and effectiveness of Non-Tax State Revenue (PNBP) fee management within the Downstream Oil and Gas Regulatory Agency (BPH Migas). The research utilizes a qualitative approach through in-depth interviews and direct observations conducted during an internship program. The SILVIA application is designed to streamline PNBP management processes, encompassing payments, reconciliation, document creation (such as billing letters and minutes of meetings), and financial reporting. The results indicate that the SILVIA application significantly enhances the efficiency and effectiveness of PNBP management. In terms of effectiveness, the program's success is demonstrated by several indicators, including achieving program objectives, user satisfaction, and increased output relative to input. Processes that were previously manual are now automated through the application, expediting the creation of essential documents and increasing the number of business entities successfully reconciled within a given period. Moreover, user satisfaction levels were positive, despite some technical challenges that still need to be addressed. In conclusion, the SILVIA application has a substantial impact on supporting the management of PNBP fees in BPH Migas. These findings are expected to broaden the understanding of the importance of digital innovation in improving the efficiency and effectiveness of government agency operations and provide input for the development of more optimal systems in the future.

Keywords: BPH Migas, SILVIA Application, PNBP Management, Efficiency, Effectiveness.

INTRODUCTION

As globalization continues to advance rapidly, the demand for access to information and communication has become increasingly urgent. This need is experienced not only by the general public but also by various entities, including companies, institutions, and government agencies at both local and national levels (Primadani, 2019). Advances in information and communication technology have enabled efficient data integration between devices. This integration accelerates the acquisition of information necessary for various activities, particularly decision-making processes.

In today's globalized environment, organizations, especially government agencies, are expected to maintain high levels of accountability in their financial reporting. However, government agencies frequently encounter challenges related to inconsistencies in their financial information presentation. The enhancement of organizational integrity necessitates the development of information technology capabilities, particularly in the financial sector. This development ensures the completeness of financial information and promotes the implementation of more rational policies within government agencies and companies. The quality of government financial information can be defined as the ability to meet certain quality standards which include relevance, reliability, understandability, and distinguishability (Purba & Purba, 2023).

For example, BPH Migas in Indonesia is a government agency that has a great responsibility in overseeing and regulating various aspects of downstream oil and gas activities. BPH Migas plays a major role in regulating, controlling, and supervising all business processes and the oil and gas industry including the process of storing, distributing, and distributing oil and gas to the public. The main objective of BPH Migas is to ensure transparency, fairness, and efficiency in oil and gas business operations while maintaining the continuity of national energy supply. Through these roles and functions, BPH Migas makes an important contribution in ensuring the smooth supply of national energy and increasing the role of the oil and gas sector in the economy in Indonesia (Badan Pengatur Hilir Minyak dan Gas Bumi, 2021).

Peraturan Pemerintah No. 48/2019 establishes fee payment requirements to BPH Migas for business entities operating in the energy industry. These requirements specifically apply to entities engaged in fuel supply, distribution, and trading activities. Furthermore, the regulation mandates fee payments from entities involved in Natural Gas transportation and trading through pipeline networks with distribution facilities. As the primary regulator of the natural gas and oil sectors, BPH Migas derives its operational funding from fees collected from participating business entities. This funding mechanism enables BPH Migas to effectively execute its regulatory and supervisory functions across the oil and gas sector. The financial resources are essential for BPH Migas to fulfill its responsibilities, which include monitoring regulatory compliance, maintaining business process transparency, and developing both infrastructure and human resource capabilities for optimal sector management.

According to the provisions in Peraturan Pemerintah No. 48/2019 Article 10, each business entity is required to submit two types of reports to the regulatory body, namely quarterly realization reports and business entity financial reports. Every quarter, the regulatory body will verify the payment of contributions based on the quarterly realization report submitted by the business entity. In addition, the regulatory body will also conduct an annual verification of fee payments based on the financial statements submitted by the business entity. Based on this mandate, BPH Migas carries out the Volume Verification and Fee reconciliation process which is an important step in overseeing oil and gas business activities in Indonesia.

In facing challenges related to the management of Non-Tax State Revenues (PNBP), BPH Migas realizes the need to overcome several challenges that arise, such as many files or files collected are not stored neatly and are often lost and the risk of errors due to human error is high. In addition, the mismatch of information received between related parties is often a problem, such as manually inputted data that tends to be less accurate or not up to date. This certainly has an impact on the delay in the information received by stakeholders so that decisions made are less timely and also time-consuming in requesting approval or approval.

These issues ultimately hamper operational efficiency and reduce the company's effectiveness in managing PNBP fees in the oil and gas sector, further emphasizing the importance of implementing technology solutions that are expected to overcome these obstacles by providing more accurate, fast, and consistent information. Therefore, as a solution step to increase efficiency and improve standards of transparency, accuracy, and compliance with applicable regulations, BPH Migas developed an application called SILVIA, which stands for Report, Verification, and Administration Information System. SILVIA is an online application designed to facilitate the management of PNBP, from reports to verification and administration. One of the main advantages of SILVIA is its ability to replace manual processes with more automated and computerized processes.

Beyond efficiency improvements, SILVIA demonstrates significant positive impacts on PNBP management. The system facilitates enhanced monitoring and supervision of PNBP processes, thereby minimizing risks of regulatory violations and unethical practices. SILVIA's comprehensive, well-documented record-keeping capabilities enable organizations to maintain stronger accountability to stakeholders, including government agencies and business entities. Through enhanced efficiency, transparency, and regulatory compliance, SILVIA facilitates more effective and responsible management of national oil and gas resources. Given SILVIA's significant influence on PNBP management, this research examines its impact on the efficiency and effectiveness of PNBP contribution management at BPH Migas. The study specifically evaluates user satisfaction with the SILVIA system. Through data collected during an internship program, this research assesses user perceptions and experiences with the SILVIA system in managing PNBP contributions at BPH Migas.

This research aims to analyze in depth the impact of SILVIA implementation on the efficiency and effectiveness of PNBP Dues management within BPH Migas. Through this research, the author seeks to comprehensively understand how the implementation of SILVIA can affect the process of managing PNBP Fees, with a focus on the efficiency and effectiveness aspects. The findings of this research I hope can provide valuable insights for many parties out there, including BPH Migas companies and other researchers. This in-depth analysis of the existence of SILVIA on the management of PNBP Dues is expected to provide a better understanding of the potential, benefits, and challenges that may be faced in implementing this application.

METHOD

This study employs a qualitative approach based on the researcher's direct involvement as an intern in PNBP fee management activities at BPH Migas. This immersive experience facilitated a comprehensive understanding of operational challenges and system implementation. The research adopts a qualitative methodology to examine the phenomenon in depth through narrative analysis, focusing on the experiences and perspectives of individuals directly involved in the system's operation (Jailani et al., 2023). The study utilizes descriptive analysis methods to present findings through detailed narrative descriptions and visual documentation rather than numerical data.

The data collection techniques employed in this study include interviews, observations, and document analysis. According to Aditya (2013), appropriate data collection techniques ensure valid and relevant information to address the research problem. Primary data, obtained directly from original sources through interviews and observations, provides first hand information directly related to the research object (Sugiyono, 2018). In this study, primary data was collected through in-depth interviews with respondents directly involved in the management of Non-Tax State Revenue (PNBP) using the SILVIA application, offering authentic insights into user perceptions, including its advantages and challenges. Secondary data, derived from indirect sources such as documents, journals, and reports, supplements the analysis by providing additional context to the primary data (Wahidmurni, 2017).

In this research, secondary data was obtained from internal documents of BPH Migas, scientific journals, and reports related to PNBP management, reinforcing the analysis with theoretical foundations and empirical evidence. This methodological approach was selected for its capacity to thoroughly explore user experiences, perceptions, and evaluations of the SILVIA application. The descriptive analytical framework enables detailed examination of user

interactions with the system while maintaining contextual richness and authenticity in the findings.

RESULTS AND DISCUSSION

Qualitative Research Results

Based on the results of observations made at BPH Migas, researchers found the form of application of the SILVIA application to assist the management of PNPB contributions including:

1. Payment

The PNPB payment process for business entity fees in the SILVIA application has been integrated with the ESDM licensing application and the SIMPONI payment portal. Where, the ESDM licensing application functions as a place to report the sales volume of business entities and a place to pay self-assessment and business entity bills, SIMPONI is a PNPB fee payment application system owned by the Ministry of Finance. With the existence of SILVIA that integrates with SIMPONI, business entities can create their respective company payment billing to make PNPB fee payments directly through this feature.

JENIS BIAYA	VALUASI ASIA	VOLUME (KL)	TOTAL NILAI PENYULINGAN	TARIF	TOTAL URAK
Migas Total	11.455.64	6.344.022	72.291.739.286,67	0,250	186.729.348,22
TOTAL		6.344.022	72.291.739.286,67		186.729.348,22

KODE BILLING	TANGGAL BILLING	TANGGAL LUPUT	TANGGAL BAYAR	TOTAL BILLING	STATUS	Aksi
8321400000000000	04-09-2024	13-09-2024	04-09-2024	186.729.348	Sudah Dibayar	[icon]

Figure 1. Fee Payment Feature in SILVIA System

The contribution payment feature systematically records both individual business entity contributions and PNPB payment billing history. This systematic recording enables BPH Migas to efficiently retrieve payment data while minimizing risks associated with payment documentation loss.

No	Nama Badan Usaha	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Ag	Sep	Okt	Nov	Des	Aksi
1	PT XXX	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	[icon]

Figure 2. Historical Billing Record Interface

2. Dues Reconciliation Process






SILVIA facilitates the reconciliation of business entity contributions through two distinct processes: quarterly PNBP contribution reconciliation and annual (final) reconciliation.

Proses Rekrutasi luran Tindakan

INFORMASI LUKAN

Nama Badan Usaha PT XXX
Jenis Pemakaian luran Badan Usaha dalam kegiatan usaha perdagangan dan pendistribusian BSM
NPPN 12345678910
Tindakan Tindakan 1 Tahun 2024

FORMA KENDALIAN

Tanggal Data Masuk 2024-08-16 14:07:00 9970000
Version 1
Tanggal Pelaksanaan 2024-08-16 9999 
Tempat Tematik
Temperatur Tangan Saat Undangan Klapa BPH Migas 
Nomor Surat Undangan Nomor Surat Undangan
Nomor Berita Acara nomor berita acara akan dibuat oleh pengawas di migas
Tanggal Surat Undangan 2024-08-16 9999 
Tim Verifikasi Volume dan Reklamasi luran, BPH Migas PPH Regional
Mengantar PPH Regional 
Mengantar PPH Regional 

DATA KENDALIAN

Verifikasi luran BSM

BULAN	JENIS	VOLUME (L)	HARGA RATA-RATA (RP)	NILAI PENJUALAN (RP)	TARIF (%)	URBAN (RP)
Jari	Migas Luran CN 80 B30	7.400.000,00	10.840,00	80.100.000.000,00	0,250	202.229.224
Fari	Migas Luran CN 80 B30	5.304.304	11.847,00	62.800.371.493,00	0,250	159.237.629
Mari	Migas Luran CN 80 B30	5.937.495	11.873,00	70.500.111.400,00	0,250	176.274.279
TOTAL		18.741.819,00		213.470.364.293,00		538.741.132
Jumlah Realisasi luran						
PENGEMASAN						537.046.747
DERIVA						0
SALDO SEBELUM (Jumlah Pengemasan)						(15.726.385)
LEBAR BAKAR						(128.070)

10

Kembali

Berikutnya

Figure 3. Contribution Reconciliation Feature

The annual dues reconciliation stage can only be carried out when the quarterly reconciliation of periods one to four has been successfully carried out and the business entity has reported its annual financial report. Then after the dues reconciliation stage has been successfully carried out by the business entity, the final result of this reconciliation report is in the form of an official report.

[illegible]

Figure 4.

Minutes of Results from Quarterly and Yearly Fee Reconciliation


The launch of the minutes is made systematically by the system from the SILVIA application, making it easier for BPH Migas companies to make the final results of the reconciliation process, both quarterly and annually.

3. Letter Creation

In the letter creation feature, the SILVIA application has a feature that functions to create billing letters. This letter serves to inform business entities about their payment status, including overpayment, zero balance, or underpayment.

Figure 5. Billing Letter Creation Feature

After filling in the data to create a billing letter to a business entity has been inputted, a billing letter will be issued which is automatically generated by the SILVIA application system as shown below.



BADAN PENGATUR HILIR MINYAK DAN GAS BUMI
Gedung BPH MIGAS, Jalan Kapten P. Tendean Nomor 28 Jakarta 12710 - Indonesia
Telepon : (62-21) 5255500, 5212400; Faksimile : (62-21) 5223210, 5255566
Website : www.bphmigas.go.id

Nomor : 296/KPPNBP/BPH MIGAS/IV/2024 5 April 2024
Lampiran : -
Sifat : Segera
Hal : Tagihan Pertama Rekon TW 2 Tahun 2023

Yang Terhormat
Direktur Utama
PT XXX
di tempat

Sesuai Peraturan Pemerintah No.48 Tahun 2019 Pasal 10 ayat (1), ayat (2), dan ayat (3), dan berdasarkan Berita Acara Verifikasi dan Rekonsiliasi Iuran Triwulan II (April, Mei, Juni) tahun 2023, bersama ini kami sampaikan tagihan :

1. PT XXX pada Triwulan II (April, Mei, Juni) Tahun 2023 terdapat lebih bayar iuran sebesar Rp93.735,- (Sembilan Puluh Tiga Ribu Tujuh Ratus Tiga Puluh Lima Rupiah). Lebih bayar tersebut akan diperhitungkan pada kewajiban iuran periode selanjutnya.
2. Saldo Outstanding adalah sebesar Rp0,- (Nol Rupiah).
3. Apabila PT XXX tidak memiliki saldo outstanding di atas, maka lebih bayar tersebut akan dikompensasikan untuk kewajiban iuran periode selanjutnya.

Demikian kami sampaikan. Atas perhatian dan kerjasama Saudara, kami ucapkan terima kasih.

Sekretaris BPH Migas
Selaku Pejabat Kuasa Pengelola PNBP

Ditandatangani secara elektronik
Patuan Alfion Simanjuntak

Tembusan :
1. Kepala BPH Migas;
2. Direktur BBM BPH Migas.

Figure 6. Business Entity Collection Letter

4. Reports

In the report feature, SILVIA helps create internal documents that function to record and manage financial transactions within a certain period in the form of working papers. Through the SILVIA application, working papers can display all data including self-assessment payments, bill payments, information on the reconciliation process, and the final value of the balance held by the business entity in a certain period based on the selected business entity.

Kertas Kerja									
Tahun: 2024									
Bulan: Jan - Des									
Bulan Usaha: PT XXX									
Cari: [Cari] Menampilkan: 10									
No.	Bulan usaha	Jenis	Bulan	Realisasi	Tanggal	Normalisasi	Debit	Saldo PP 48 Tahun 2019	Saldo PP 48 Tahun 2024 / Tahun Audit
1	PT XXX	BBM	Januari	-88.915	1-01-2024	0	0	-88.915	0
2	PT XXX	BBM	Januari	119.765.560	15-01-2024	119.765.560	0	-88.915	0
3	PT XXX	BBM	Februari	202.563.550	07-02-2024	202.563.550	0	-88.915	0
4	PT XXX	BBM	Maret	150.207.918	08-03-2024	150.207.918	0	-88.915	0
5	PT XXX	BBM	April	424.921.624	05-04-2024	0	0	-425.803.539	0
6	PT XXX	BBM	April	424.921.624	05-04-2024	0	0	-88.915	0
7	PT XXX	BBM	April	489.907.847	05-04-2024	0	0	-500.006.762	0
8	PT XXX	BBM	April	489.913.027	05-04-2024	0	0	-83.735	0
9	PT XXX	BBM	April	176.279.279	05-04-2024	176.279.279	0	-83.735	0
10	PT XXX	BBM	Mei	185.413.861	08-05-2024	185.413.861	0	-83.735	0
TOTAL				1.022.861.781	-	1.022.955.516	0	-83.735	0

Figure 7. Report Feature

In addition, the SILVIA application report feature can also be used as a medium for submitting financial reports conducted by each business entity. The SILVIA application can also display a list of financial reports based on the selected year period and business entity.

No.	Badan usaha	Pendapatan Untuk tahun	KAP/Auditor	No Reg Auditor	Nama Pemegang Saham
1	PT XXX	728.931.296.875,00	XXXX	451/KM.1/2010	XXXX

Figure 8. Financial Statement Data Results

Meanwhile the interview process was conducted directly during the internship program, covering predetermined units of analysis. The summarized findings from the interviews with the respondents are presented below:

Table 1. Overview of Interview Results

No	Outline of Questions	Summary of Interview Results
1	<p>Efficiency (Operational Aspects)</p> <p>The Impact of the SILVIA Application on Efforts, Thought, and Time in Managing PNBP Fees Compared to the Pre-SILVIA Era</p>	<p>The SILVIA application has proven to enhance the fee reconciliation process by enabling real-time access for teams and leaders, reducing reporting times from one month to just three to five days. Operational efficiency has significantly improved thanks to features within the SILVIA application, such as the automation of fee calculations, penalties, and reports, which previously required manual calculations prone to errors. Additionally, the SILVIA application has optimized human resource utilization by reducing the use of physical documents, thereby minimizing the risk of document loss.</p> <p>Overall, respondents agree that the SILVIA application not only accelerates processes but also reduces operational costs for BPH Migas, demonstrating the significant benefits of adopting technology.</p>
	<p>Efficiency</p>	<p>From the output perspective, the SILVIA application has significantly accelerated the completion of reconciliation reports and invoice</p>

	<p>(Output Aspect)</p> <p>Identifies the efficiency of the SILVIA application in achieving maximum results with minimal effort and its alignment with user expectations.</p>	<p>issuance by automating coordination processes, although occasional disruptions occur during transitions in the authorization of system signatories.</p> <p>The application also facilitates monitoring outstanding receivables from enterprises and enables the reconciliation process to be conducted online, ensuring outcomes that meet user expectations. However, there remain certain shortcomings within the SILVIA application that need to be addressed to enhance its performance further.</p>
2	<p>Effectiveness (Program Success)</p> <p>Identification of program success and the ease of use of the SILVIA application in managing PNBP contributions.</p>	<p>In terms of program success, the SILVIA application has proven to be extremely helpful, particularly in the reconciliation of contributions, with the benefits gained far outweighing the challenges faced previously.</p> <p>For example, the reconciliation process and the issuance of reports have become easier to understand by users due to its user-friendly design. Although initially, users had to manually adjust data and there were still some bugs and issues that needed to be fixed, continuous improvements have been made, making SILVIA a reliable tool in the PNBP contribution process.</p>
	<p>Effectiveness (Goal Achievement)</p> <p>The identification of the effectiveness of the SILVIA application in simplifying and achieving the target for the management of Non-Tax State Revenue (PNBP) contributions.</p>	<p>In terms of goal achievement, the SILVIA application received a score of 4 on a scale from 1 to 5 for its role in helping achieve Key Performance Indicators (KPIs), particularly based on the results of the reconciliation of business entity contributions. The SILVIA application accelerates the recording of bills and outstanding balances, allowing more business entities to be reconciled in each period.</p> <p>Furthermore, the SILVIA application also contributes to the improvement of KPIs, which are measured through the number of business entities reconciled and the number of minutes of meetings issued.</p>
		<p>Based on the satisfaction of the informants with the program, all three participants were generally satisfied with the existence of the SILVIA</p>

	<p>Effectiveness (Program Satisfaction)</p> <p>Reviews the satisfaction level of users of the SILVIA application in managing Non-Tax Revenue (PNBP) contributions and assesses the quality of services provided.</p>	<p>application, especially in the contribution reconciliation activities. The satisfaction score averaged between 8 and 9 out of 10. Some informants felt greatly assisted and satisfied (score 9), while others were satisfied but noted some areas that still require improvement (score 8).</p> <p>With satisfaction scores ranging from 8 to 9, the authors conclude that the level of satisfaction is still considered good. This clearly indicates that the SILVIA application has provided tangible assistance in the process.</p>
	<p>Effectiveness (Input and Output Levels)</p> <p>Analysis compares the output generated with the input invested in using the SILVIA application, along with concrete examples demonstrating its efficiency.</p>	<p>The SILVIA application has been optimized for administrative processes at BPH Migas with features such as automatic invoice creation, minutes of meetings, and financial reporting. This has reduced dependence on human resources and storage space for archives.</p> <p>A concrete example of this is that before the SILVIA application, the approval process required physical signatures from several officials. With the SILVIA application, officials can now sign documents digitally, anytime and anywhere. Overall, the SILVIA application has delivered greater output than the input provided.</p>
3	<p>Shortcomings/Constraints</p> <p>Identifying the shortcomings and constraints faced by users of the SILVIA application in managing non-tax state revenue (PNBP) contributions.</p>	<p>Regarding shortcomings and constraints, the informants agree that the SILVIA application has some weaknesses, such as bugs in recording duplicate payments, incorrect input of fines during migration, failure to automatically sum the balance in working papers, and inaccurate volume verification numbers entered into the contribution menu, with a small probability of 1:20 for business entities.</p> <p>Furthermore, SILVIA also has limitations in terms of User Interface, such as being less responsive, and the server occasionally experiences technical issues due to its reliance on PUSDATIN. The lack of a feature to accommodate total receivables from all business entities per period is also a weakness in this application.</p> <p>Therefore, this application still requires further development to produce comprehensive financial</p>

		reports, particularly related to receivables.
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Discussion

Impact of SILVIA Application on Effectiveness

SILVIA serves as an integrated platform for collecting, processing, and analyzing data related to PNB contributions from fuel and natural gas business entities within the BPH Migas framework. The transition from manual processing to SILVIA's automated system has yielded significant improvements in operational efficiency. Based on Gie's (2000) effectiveness indicators, SILVIA demonstrates substantial positive impact across several key dimensions:

1. Operational Aspect

The SILVIA application has proven to produce maximum results with effort including minimal energy, thought, and time spent. Before the SILVIA application, all PNB contribution management processes were still carried out manually. In terms of energy and thought, the SILVIA application in the process of reconciling dues can be carried out more quickly and precisely, because the value of dues, fines, and draft minutes have been automatically made through the system. In addition, the creation of letters, draft minutes, and working papers has also been automatically created by the system from the SILVIA application. Compared to before the SILVIA application, all calculations and letter making were done manually so that the risk of writing and calculation errors was higher. The implementation of SILVIA has significantly improved the efficiency of contribution reconciliation processes, reducing both time and operational costs for BPH Migas and associated business entities. The system enables the reconciliation team and leadership to monitor real-time progress of each business entity's reconciliation status, eliminating delays associated with manual report preparation. Prior to SILVIA's implementation, reconciliation monitoring required sequential confirmation from business entity PICs and the reconciliation team before information could be conveyed to leadership. SILVIA has particularly enhanced the signature circulation process for reconciliation minutes. The digital system facilitates faster document processing and maintains secure records of all signed documents. This represents a substantial improvement over the previous manual process, which typically required a minimum of one month for complete signature collection and occasionally resulted in document loss during circulation.

2. Output Aspect

The results obtained from using the SILVIA application also provide maximum output in accordance with the effort spent. The SILVIA application has had a positive impact, especially in terms of an increasingly efficient way of working, because it makes it easier to manage PNB contributions. The SILVIA application also helps to make the required final output such as minutes and billing letters for each business entity, which is done more quickly by only inputting the required data, no longer needing to be done manually one by one. In addition, the process is automatic through the system so there is no need to coordinate in advance with each PIC. This proves that with the SILVIA application the results obtained are effective because the minutes and billing letters are successfully made with minimal effort expended. In addition, the SILVIA application also helps ensure that the contribution reconciliation process can still run according to the specified schedule. Before the SILVIA application, each business entity that was constrained

to attend for dues reconciliation would get a slowdown in the dues reconciliation process, but after the SILVIA application the business entity could still be reconciled online.

Impact of SILVIA Application on Efficiency

The SILVIA application demonstrates effectiveness through enhanced facilitation of PNBP contribution management at BPH Migas. This effectiveness directly correlates with improved operational efficiency, as these aspects are intrinsically linked in system performance. Based on Campbell's theoretical framework (1989), as cited in Firdaus (2009), the application's effectiveness can be evaluated through several key indicators:

1. Program Success

SILVIA successfully fulfills its primary objective of streamlining PNBP contribution management. The system enables efficient processing of tasks ranging from dues reconciliation to minutes generation through an intuitive interface that facilitates rapid user adoption. Qualitative data from interviews with three key informants confirms SILVIA's reliability in PNBP process management. As one informant stated in their interview:

"Di awal dalam proses peralihan dari sistem manual ke sistem SILVIA pengguna harus melakukan migrasi data secara manual ke sistem, namun seiring berjalannya waktu, perbaikan demi perbaikan sistem yang terus dilakukan, aplikasi SILVIA saat ini dalam membantu proses PNBP iuran sudah dapat diandalkan." (Hasil Wawancara Informan Putra, 2024).

2. Goal Achievement

The level of effectiveness is also measured by the extent to which the level of output or final results obtained in policies and procedures achieves the objectives set by the company. In terms of target success, the SILVIA application is able to perform more reconciliation of business entities that can be done easily every period because the process of reconciliation is faster and easier, this is certainly very helpful in achieving goals and increasing the company's target results. The author's observations during his internship at BPH Migas also prove that during reconciliation, the billing results recorded on the work papers are faster and neatly recorded so that the author is also easy to record the value of receivables owned by business entities.

3. Program Satisfaction

This indicator assesses the extent to which the SILVIA program or application can meet the needs of its users. The SILVIA application has proven to be helpful by providing positive benefits for BPH Migas companies. This is supported by the results of interviews conducted with three interviewees, the average interviewee gave a satisfaction score of 8 out of 10. From this range of numbers, the author concludes that the SILVIA application is quite satisfied and helps its users, but there are still some features that need to be developed again, as said by one of the interviewees:

"Kalau seberapa puas, harus tetap puas. Namun tetap banyak yang perlu di kembangkan dan diperbaiki lagi karena aplikasi SILVIA bukan hanya untuk satu badan usaha saja. Mungkin skala kepuasan ada di angka 8. Untuk membantu sudah cukup membantu kalau seberapa puas harus puas namun memang masih banyak yang harus diperbaiki." (Hasil Wawancara Informan Trinugrahadi, 2024).

4. Input and output levels

High effectiveness is judged by the level of output produced greater than the input spent. The presence of the SILVIA application for the management of PNBP contributions has proven to

produce greater output because it has succeeded in reducing costs and time during the process of making minutes or billing letters for business entities. Then the storage process, archives of minutes, invoice letters, and financial reports have also been accommodated automatically through the SILVIA application system.

Before the existence of SILVIA, all manufacturing processes required archive rooms and archivists where this could still cause the risk of loss. Meanwhile, with the SILVIA application, it is no longer necessary to ask for a signature as a form of approval directly, which takes quite a long time when there is a need for signing minutes or issuing letters addressed to business entities. Through SILVIA, signatures can be done directly through the application anywhere and anytime. This is also supported by the statement of one of the interviewees who said:

“Untuk outputnya jelas lebih cepat, contohnya ketika pembuatan berita acara dan surat penagihan dapat lebih cepat penerbitannya. Sebelumnya ketika masih dilakukan secara offline, cukup memakan waktu yang lama khususnya pada permintaan tanda tangan yang sangat banyak dan lama.” (Hasil Wawancara Informan Trinugrahi, 2024).

Perception and Experience of SILVIA Application from Users

The SILVIA application has proven to have a positive impact on the efficiency and effectiveness of BPH Migas companies in managing PNBP contributions. The transition from all work done manually to automated with the system certainly affects the experience and satisfaction level of its users. The experience of using the SILVIA application is quite easy and minimal obstacles because the SILVIA application itself is also designed in a user-friendly manner so that adaptation to the system from previously manual, can be used quickly by its users. In addition, the experience while using the SILVIA application also provides benefits that are far greater than the obstacles faced.

The level of user satisfaction while using the SILVIA application from the experience of users who use it is quite satisfied. Users who have used from the manual period to the automatic transition with the SILVIA application system are quite helpful in doing their daily work even though there are still weaknesses in their satisfaction which include obstacles in the SILVIA application itself which still needs development. These obstacles include bugs in the SILVIA application that still occur frequently resulting in double recording of payments on work papers, fines that do not match the time due to incorrect date input at the time of migration, work paper balances that are not summed up automatically, to the results of the numbers from verifying the volume entering the dues menu are not correct. Although based on the results of the interview the probability of occurrence of these bugs is 1 in 20 business entities, it would be nice to still be overcome to maximize the SILVIA application system in managing PNBP contributions.

The interviews revealed several limitations of the SILVIA application, particularly in its User Interface (UI). These include occasional responsiveness issues, technical server challenges due to its reliance on the PUSDATIN server, and the absence of features to accommodate comprehensive financial reporting for receivables. Despite these technical shortcomings, the SILVIA application has significantly improved the efficiency and effectiveness of BPH Migas in managing Non-Tax State Revenue (PNBP) fees. Overall, the benefits provided by the SILVIA application far outweigh the challenges encountered, demonstrating its substantial potential to enhance organizational performance in the future.

CONCLUSION

The SILVIA application has proven to have a significant positive impact on the efficiency and effectiveness of managing non-tax state revenue (PNBP) contributions within BPH Migas. This study shows that the transition from a manual system to an automated system through the SILVIA application has improved the speed, accuracy, and ease of the contribution reconciliation process. The application also facilitates the creation and monitoring of minutes and invoices, reduces human errors, and minimizes the risk of document loss.

In terms of efficiency, the SILVIA application has successfully reduced costs and time expenditures for BPH Migas and the associated business entities. The reconciliation process, which previously took up to a month, can now be completed faster, and reports can be accessed in real-time by management without needing confirmation from each PIC. Additionally, the automation feature in the application helps to reduce manual workload, allowing the reconciliation team to focus on more strategic tasks.

In terms of effectiveness, the SILVIA application has also achieved the company's goals of improving the performance of PNBP contribution management. The application processes business tasks more efficiently, delivering maximum output with minimal effort, thus supporting the achievement of company targets. Furthermore, user satisfaction, based on interviews conducted with SILVIA users, is relatively high, although some technical issues remain. The SILVIA application holds great potential to continue improving efficiency and effectiveness in managing PNBP contributions in the future, provided that continuous improvements and necessary developments are made.

SUGGESTION

Based on the research findings, the author offers several recommendations to improve the performance of the SILVIA application and the management of non-tax state revenue (PNBP) contributions at BPH Migas. These recommendations include addressing technical issues, such as bugs and input errors, that have been frequently observed in the application. Enhancing the server's capacity and responsiveness is also crucial to resolve occasional technical difficulties, ensuring smooth application use without disruptions. Additionally, the author suggests developing new features, such as a receivables calculation tool for generating financial reports, which would improve the application's functionality and effectiveness in managing PNBP contributions. To further optimize usage, ongoing training and support for users should be provided, helping both new and existing users to adapt quickly and fully utilize all available features. Regular monitoring and evaluation supported by user feedback, are essential for identifying issues and implementing effective solutions. By incorporating these recommendations, the author hopes the SILVIA application will significantly enhance the efficiency and effectiveness of PNBP contribution management at BPH Migas and contribute to the overall improvement of the organization's performance.

REFERENCE

- Aditya, D. (2013). *Data dan metode pengumpulan data*. Surakarta: Jurusan Akupunktur Poltekkes Kemenkes Surakarta.
- Badan Pengatur Hilir Minyak dan Gas Bumi. (2021). Diambil kembali dari *BPH Migas Website*: <https://www.bphmigas.go.id/>

- BPH Migas. (2022). Sistem informasi, laporan, verifikasi, dan administrasi. Diakses pada 6 Mei 2024 dari SILVIA: <https://silvia.esdm.go.id/>
- Campbell. (1989). *Riset dalam efektivitas organisasi* (S. Simamora, Penerj.). Jakarta: Erlangga.
- Gie, T. L. (2000). *Administrasi perkantoran*. Yogyakarta: Modern Liberty.
- Primadani, N. R. (2019). *Analisis efektivitas aplikasi cash management system kantor pusat PT. Bank Aceh Syariah di pemerintah kota Banda Aceh*. Banda Aceh: Universitas Islam Negeri Ar-Raniry Banda Aceh.
- Purba, S., & Purba, R. (2023). Determinasi dalam kualitas laporan keuangan pemerintah daerah. *Jurnal Akuntansi Trisakti*, 137–152.
- Republik Indonesia. (2019). *Peraturan Pemerintah (PP) Nomor 48 Tahun 2019 tentang besaran dan penggunaan iuran badan usaha dalam kegiatan usaha penyediaan dan pendistribusian bahan bakar minyak dan pengangkutan gas bumi melalui pipa* (Lembaran Negara Republik Indonesia Tahun 2019 Nomor 122).
- Sugiyono. (2018). *Metode penelitian kombinasi (mixed method)*. Bandung: CV Alfabeta.
- Wahidmurni. (2017). *Pemaparan metode penelitian kualitatif*. UIN Maulana Malik Ibrahim Malang.