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Strengthening Public Expenditure Efficiency Through System Integration: A Case Study of the Official Travel System in Indonesia

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Abstract:
The research intends to find out how to redesign the official travel system to mitigate the potential risks of inefficiency and fraud effectively by using business process improvement (BPI). The qualitative method is applied and business process improvement adopted as research strategy. The research object is XYZ and data collected from interviews, visits, observation, and documentary. Based on the results, a BPI model design for the official travel business process is created which has implications for increasing control through end-to-end processes by system and increasing business process time efficiency. The results mandate the government should integrate the official travel system with the other systems, including banking sectors, transportation and accommodation providers, and government expenditure system. The publications on how to redesign business process improvement of government expenditure to mitigate potential fraud risks of official travel expenditure system are still rare, whereas it is important to provide recommendations for government how to tackle such risks. Authors expect that the research could deliver contribution in mitigating the potential fraud risks of official travel.

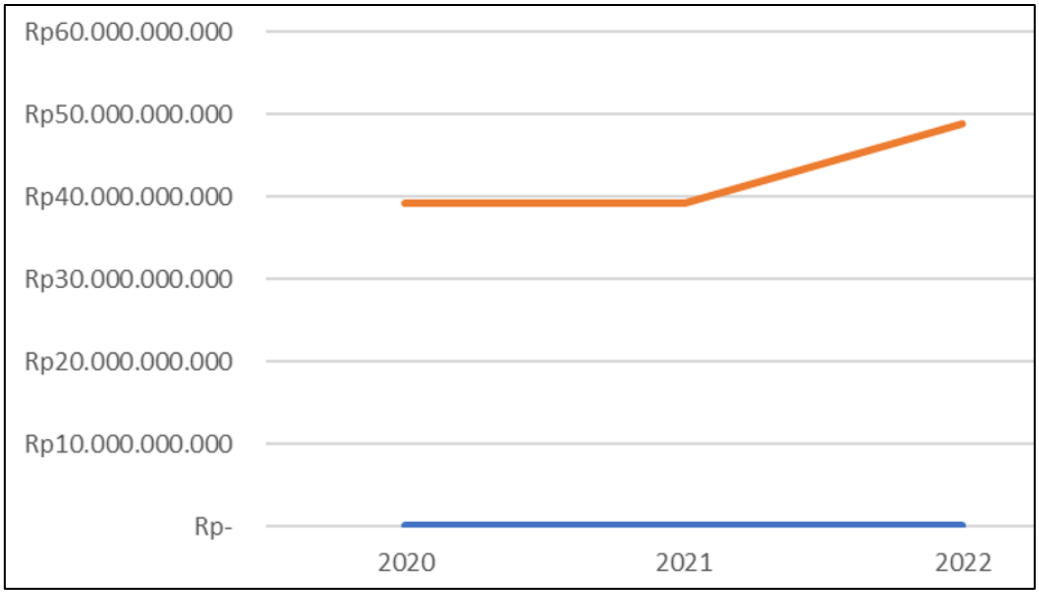
Keywords: Business Process Improvement, E-government, Internal Control, Official Travel System, System Integration.

INTRODUCTION

Based on the audit report of BPK RI, there are still fraud cases of official travel expenditure, especially related to government conformity with the law and internal control in the last three years. Picture 1 portrays such findings in the brief number of frauds. Meanwhile, as reported, the various frauds are in the form of fictitious and double official travel expenditures, manipulation of travel documents, and overpayment of official travel funds.

Official travel is regulated by the financial regulation number PMK 113/PMK.05/2012 as revised by PMK 119 Tahun 2023 and PER-22/PB/2013. The important aspect of regulation number 119 Tahun 2023 is that it improves the travel system by adopting an electronic system. Since, in previous regulations, the official travel system uses manual and paper-based systems, therefore there are numerous potential risks in efficiency and fraud (Ministry of Finance Regulation (2023). BPK RI, in the audit report of internal control and government regulation conformity, number 30.c/LHP/XV.05/2023, date of May 23, 2023, recommends to the government to improve the budget mechanism, budget

execution and accountability in order to mitigate disobedience risk, budget output gap, and target inaccuracy in the budget spending. Besides that, BPK also mandates the financial ministry to coordinate with BPKP (Finance and Development Supervisory Agency) and APIP (Government Internal Supervisory Apparatus) in formulating effective internal control to minimize potential risks of government expenditure deviation (BPK RI, 2022). Those recommendations align with the research findings that internal control weakness contributes to one of the fraud causes (Zakaria et al., 2016; Hamdani & Albar, 2016; Setyaningsih & Nengzih, 2020).



Picture 1: BPK RI Findings on Official Travel Fraud
Source: BPK Audit Reports

According to Umar et al. (2024), corruption occurs across various sectors, impacting people's lives from regional to central government. Furthermore, they stated that corruption is a national issue that permeates the management of state finances and affects the provision of public services. Defining the terms fraud and corruption has proven to be nothing short of an 'intellectual nightmare' (Lokanan, 2015, as cited by Sargiacomo et al., 2024). According to Leder-Luis (2023), waste, fraud, and abuse are serious concerns in the government's provision of goods and services. Public officials encounter minimal motivation to combat inefficiency and fraud due to limited accountability mechanisms and the absence of personal responsibility for the mismanagement of government finances. Turner et al. (2017) defined fraud as theft, concealment, and conversion to personal gain of another's money, physical assets, or information. Rasheed et al. (2023) state that Donald Cressey introduced the fraud triangle theory in 1953, where fraudsters frequently have financial problems. Three factors must be present for an ordinary person to commit fraud: pressure, opportunity, and rationalization (Sykes and Matza, 1957, as cited by Marquart & Alan Thompson, 2024). If these three components are detected, the greater the possibility that a party will commit fraud.

Overcoming the recurring problem associated with the official travel system is the root case that should be considered. Le et al. (2021) stated that the use of an internal control system would contribute to the anti-corruption effort. According to Prioatmaji (2019), it is necessary to consider other methods and changes to other mechanisms to increase the efficiency of official travel spending. Based on the research findings, there is a strong relationship between internal control implementation and fraud mitigation. Manipulation in financial reporting may occur if there is a material weakness in internal control, as it provides management with an opportunity to manipulate the reports (Hafizah et al., 2019). Sofyani et

al. (2022) found that the implementation of internal control is perceived to have a positive contribution to accountability enhancement and fraud mitigation. Therefore, regarding fraud prevention, internal control is one of the measures that can be applied to mitigate fraud in businesses, along with employee background checks, employee training, and education on fraud issues (Bierstaker et al., 2006; Daigle et al., 2009; Laufer, 2011; Shanmugam et al., 2012, as cited in N'Guilla Sow et al. (2018)).

Suprayitno (2017) proposed an integrated e-government system model aimed at minimizing the risk of fraud in official travel expenditures. The model is based on the idea that an effective internal control system can help reduce the likelihood of fraud or inefficiency in business processes. Rama and Jones (2008, as cited by Yogasworo & Suprayitno (2020), stated that internal control is a process affected by the entity's board of directors, management, and other personnel, which is designed to give reasonable assurance related to an operational effectiveness and efficiency, financial statement reliability, and regulation conformity.

Based on the previous discussion, the organization needs to strengthen internal control, which is one of the ways to improve business processes. Page (2010) stated that efficiency in the use of resources and eliminating bureaucracy is one of the BPI objectives. Martins & Zacarias (2017) stated that the adoption of BPI strategies is now a concern of most organizations. According to Radnor (2010), the impact of carrying out BPIs on quality, cost, time, and customer satisfaction was significant. Meanwhile, Bakotic & and Krnic (2017) found that BPI could contribute to an organization's enhanced performance and positively influence employee behavior. BPI is one approach used to improve business processes within the organization. Through the implementation of BPI, organizations can enhance their performance and productivity (Delias et al., 2023). According to Zaini & Saad (2019), the implementation of BPI methodology in any field creates many opportunities to improve the competitiveness among business organizations.

Attong & Metz (2017) stated that BPI is a practice where business process analysis is carried out to identify areas that can be improved in accuracy, effectiveness, and efficiency, and it is then implemented as a form of realization of these improvements. Malinova and Mendling, 2018 vom Brocke and Rosemann, 2014, as cited by Badakhshan et al. (2020), stated that BPI is a subset of Business Process Management (BPM), where the goal of BPM is to establish effective and efficient ways for organizations to create value for their customers. According to Kratsch et al. (2017, as cited by Moreira & Dallavalle, 2024), BPM is a source of corporate performance, and its most value-creating activity is process improvement. Meanwhile, Rebledo (2018, as cited by Kasim et al., 2018) stated that BPM has become more important for companies in their day-to-day operations.

Osterwalder et al. (2005), as cited by Lara Machado et al. (2023)stated that the process of implementing a newly developed business model involves transforming its design into practical applications in the real world, including organizational structures, business processes, IT infrastructure and systems. According to Donner et al. (2001), as cited in Rashid & Ahmad (2013), the significant thing before achieving the improvement of the process is understanding the actual situation and defining the process's weak points. Paschek et al. (2016), as cited by Aguilar-Alonso et al. (2020), stated that as a part of BPM tools, BPMN is used for holistic, precise, formal, and consistent descriptions of business processes. BPMN is a well-known and accepted standard by academia and industry as the modeling language to represent Business Processes (Valderas et al., 2022).

Presidential Regulation Number 95 of 2018, concerning Electronic-Based Government Systems, mandates each government unit to implement an Electronic-Based Government System or Sistem Pemerintahan Berbasis Elektronik (SPBE). SPBE is aimed at realizing clean, effective, transparent, and accountable government governance as well as quality and trustworthy public services. National governance and management of electronic-

based government systems are also needed to improve the integration and efficiency of electronic-based government systems (President Regulation, 2018). E-government is the use of information and communication technology to help government administration be more efficient (Nookhao & Kiattisin, 2023). The application of SPBE in government organizations has impacts such as cutting service time, increasing effectiveness, speeding up payments, etc. (Mahmoodi & Nojedeh, 2016). The implementation of e-government has a positive impact on the transparency of regional financial management (Samsul & Zuhroh (2021). Sakuntala et al. (2024) suggest that countries should prioritize technology-driven initiatives like e-governance, blockchain, and Artificial Intelligence to combat corruption. Those findings are consistent with the studies of Androniceanu et al. (2022), Zumofen et al. (2022), Omotoye & Holtzhausen (2025), that digitization plays a significant role in preventing corruption.

Based on the previous consideration, the authors aim to implement the model of an effective internal control system within the official travel expenditure system by adopting business process improvement. In addition, the authors will elaborate on the process in more detail of how to transform the official travel expenditure system with potential risks to be effective internal control attached to the system. The authors intend to research the topic of BPI, specifically focusing on the government's official travel expenditure system. BPI involves analyzing business processes to identify opportunities for enhancing accuracy, effectiveness, and efficiency. Based on these insights, strategic changes will be formulated to achieve these improvements.

RESEARCH METHOD

Research Method

The research adopts a qualitative method, which adapts a BPI approach—data were collected through interviews, visits, documentaries, and observation. The strategy chosen is to collect information related to the implementation of official travel business processes on the research object.

Research Object

The research object is XYZ, a government unit within a line ministry in the central government. Meanwhile, the case study in the research is the official travel expenditure system in these units. The official travel carried out consists of ordinary business trips, in-city business trips, in-city meeting package business trips, out-of-town meeting package business trips, overseas service trips, and moving business trips. Payment for official travel is made through the LS Treasurer mechanism, where payments are made manually to each official travel agent through the treasurer, who is represented by the treasurer's assistant staff. There are two types of official travel payment processes, namely the Submitted LS mechanism, which is carried out before the employee leaves for work, and the Real LS mechanism, which is carried out after the employee concerned returns from the official trip. The design limitation that will be designed in this research is the LS payment mechanism, which is a payment mechanism both to official travel organizers and to third parties/vendors.

Data Source

The data sources used in this research come from primary and secondary data sources. Primary data was obtained from stakeholders in the official travel business process and the results of observations of the implementation of business processes. Stakeholders consist of parties implementing the official travel business process and financial managers. Secondary data was obtained from studying documents and regulations related to state

financial management, especially official travel, as well as literature related to BPI as a theoretical basis and benchmarking for case studies on different objects.

Data Collecting and Analysis Techniques

The data collection techniques used in this research are interviews conducted with stakeholders related to the official travel business process, observations on the implementation of the official travel business process, and archival and documentary research related to documents, regulations, and literature studies. Interviews are conducted using a combination of semi-structured and in-depth interviews with questions related to official travel, one-to-one and one-to-many, depending on the situation and data required for conducting the interview. Observations are carried out regarding the official travel business process. Observations are carried out from the beginning of the assignment and implementation to performance and financial accountability. Archival and documentary research is carried out by conducting literature studies related to documents and regulations.

This research adapts process analysis as an important phase of BPM to recommend improvements of the business process weaknesses. Firstly, we summarize and extract this data, which is translated into the business process mapping to make the business process modeling. Furthermore, based on the process modeling, the authors analyze and identify areas for BPI.

Business Process Improvement Method

The BPI method that is used in this research consists of the data collecting stage, business process mapping, business process modeling, business process analysis, pouring the analysis results into a matrix for each stage of the business process, formulation recommendations for improvements, and creating a business process model based on recommendations for improvements. Meanwhile, a BPM software used to create, analyze, and improve the official travel system's business process is the Bizagi Modeler.

Business process mapping is done by mapping business processes regarding what tasks are carried out and who does them. Mapping is carried out based on previously collected data and processed into a map that divides the tasks and roles of each process. The results of business process mapping are processed back into visual form in the business process modeling stage to understand the process flow from start to finish. After obtaining an initial model of the business process, an analysis of the business process is carried out to identify whether there are inefficiencies, redundancies, and potential fraud at each stage. The results of this analysis are expressed in a matrix containing the results of the analysis for each stage that will formulate recommendations for improving business processes. The formulated business process recommendations are then included in existing business processes, which are outlined again in the business process model as a visual output of business process improvement designs.

RESULT AND DISCUSSION

Business Process Mapping and Modelling

At the initial stage, the authors identify issues regarding the implementation of the official travel system at the XYZ object. At this phase, the author will make observations on the information system used by the users and perform a literature review related to the implementation of official travel. In addition, to gain a more detailed understanding, the author conducts interviews with several officials related to the implementation of the official travel system. The authors carry out this sequence of activities in accordance with the BPM

stages; as stated by Dumas et al. (2018), the first phase of the BPM cycle begins with process identification to identify a business problem.

The data collected from interviews is outlined in Table 1. There are two groups of participants involved in the interviews: policy-maker officials from the Ministry of Finance and state financial administration officials (*pejabat pengelola keuangan negara*/PPKN) of unit XYZ. The first group includes the official specializing in the regulation formulation of business processes on official travel arrangements and the official specializing in budget execution. Meanwhile, the participants interviewed from PPKN included staff responsible for preparing official travel orders, expenditure treasurer, commitment-making officials, officials authorized to sign payment orders, and employees assigned for official travel duties.

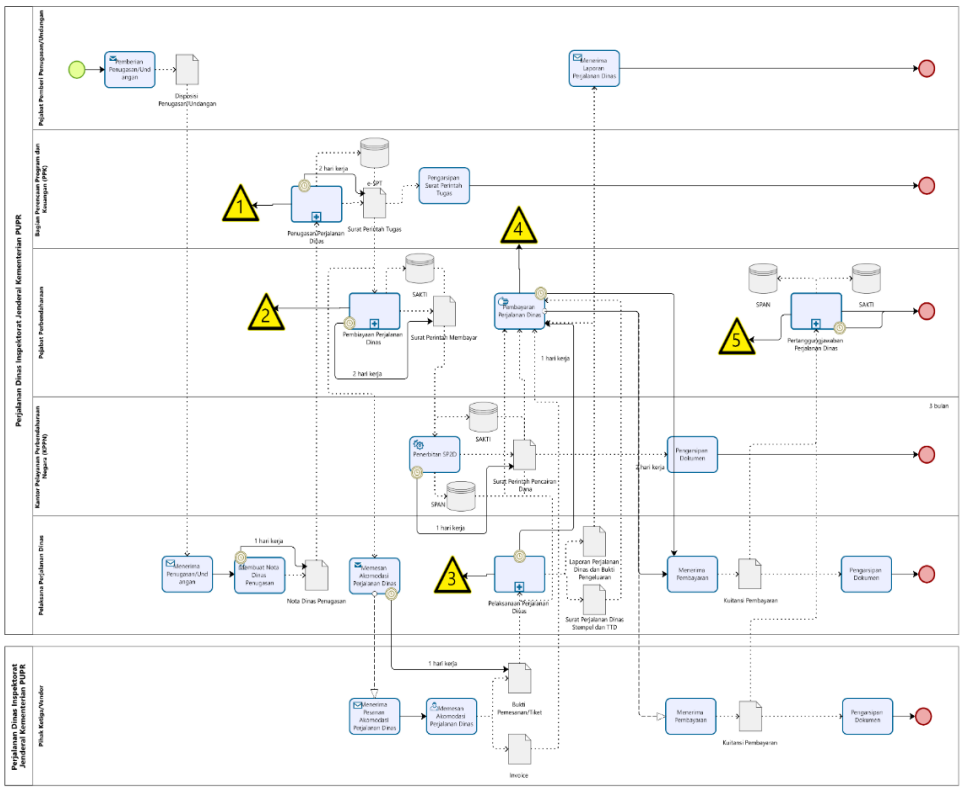
Based on the results of observations and interviews with persons, a business process mapping was formed for each stage, starting from the assignment, financing, implementation, and accountability stages. The results of this mapping become the basis for creating a map model of existing business processes. The assignment stage consists of the steps of creating and submitting a Service Note (ND) based on the leadership's disposition or invitation from external parties and creating and submitting an Assignment Order (SPT). The financing stage consists of the steps of making a nominative list of official travel expenses, verification by the general assistant of the Commitment Making Officer (PPK), verification by the PPK, making and submitting a Payment Request Letter (SPP) and Payment Order (SPM), verification by the Signing Official SPM (PPSPM), and Issuance of Fund Disbursement Order (SP2D). The Implementation Phase consists of booking accommodation and carrying out official travel. The accountability stage consists of collecting evidence and reports, validating and making payment receipts, paying official travel expenses, and collecting accountability documents for the completion of official trips.

Table 1: Data and Participants

No	Participants	Data Collected
1.	Policymaker officials	The current business process of official travel includes: 1. Formulation of regulations on official employee travel arrangements; 2. Changes and improvements of official travel business process ; 3. The use of government credit cards for official employee travel; 4. Formulation of policies and technical standards related to the business process of official travel; 5. Plan for implementing e-travel management for official duties (e-perjadin) in alignment with e-government principles.
2.	State financial administration officials	Current business processes of the official travel system, which includes: 1. Procedure for issuing official travel assignments; 2. Procedure for conducting employee official travel; 3. Procedure for claim and reimbursement of official travel expenses; 4. Procedure for the submission of official travel expenses; 5. Procedure for verifying official travel expenses submitted by personnel assigned to official travel duties; 6. Procedure for submitting accountability reports for travel expenses; 7. Procedure for payment of official travel expense claims.

Source: Author's Archive (2024)

Based on the results of the mapping and modeling analysis of each stage in the official travel process above, a BPMN can be formed from the assignment, financing, implementation, and overall accountability stages. The BPMN model is used to analyze how long the official travel business process takes to carry out, the potential for fraud, inefficiency, and redundancy, then formulate improvements and controls for each activity at each stage to speed up the business process, reduce the potential fraud and increase efficiency both in terms of time, energy and costs. Picture 2 below illustrates the BPMN model of the old system.



Picture 2: Existing Official Trip Business Process
Source: Author's archive (2024)

Based on the results of mapping and modeling of existing business processes, there are several critical points in the business travel business process according to the numbering in the chart as follows:

1. In the activity of creating and submitting assignment documents, there is a critical point in terms of potential fraud and inefficiency resulting from a lack of control over access to creating and submitting documents, which can lead to the creation and submission of fictitious documents which can be the start of fictitious official trips. Manual and physical submission also causes a lack of efficiency due to redundancy in document mobilization and printing processes and a lack of control due to gaps in document manipulation.
2. In the activities of creating, submitting, verifying, and validating financing documents, there is a critical point in terms of potential fraud and inefficiency resulting from a lack of control and restrictions on access to documents, which can lead to manipulation of document substance and the continuation of the process for fictitious official travel applications as well as redundancy in mobilization and printing documents resulting from manual processes.
3. In the activities of booking accommodation and carrying out official travel, there is a critical point in terms of potential fraud and inefficiencies resulting from the

implementation of accommodation reservations, which have the potential to continue the process of fictitious official trips so that payments for official trips carried out, if the accommodation provider commits collusion, can be carried out manipulation of aspects of occurrence and nominal which irresponsible parties can exploit. Another potential lie in SPD validation activities where fake validation can be carried out using a stock of SPDs from previous official trips, such as that validation can be carried out using fictitious documents.

4. In the activity of paying official travel expenses, there is the potential for fraud caused by cash-based management and payments. The potential that can occur is embezzlement of funds, lack of funds, and redundancy in the cash management process.
5. In official travel accountability activities, there is the potential for fraud and inefficiency caused by the physical collection and submission of accountability documents. The redundant processes from previous activities created a bottleneck at the document collection stage, leading to a backlog. This, in turn, resulted in disorderly document storage, ultimately delaying the submission of accountability documents.

Business Process Analysis

Process analysis, as part of BPM phases, where issues associated with the as-is process are identified, documented, and quantified to compile a structured collection of issues. Based on the results of mapping existing business processes from the assignment, financing, implementation, and accountability stages of official travel, an analysis was carried out on aspects of potential fraud and inefficiency at each task stage. The results of the analysis are used as a basis for formulating improvements and controls as a form of BPI in existing business processes. The analysis carried out includes aspects of governance, regulations, policies, processing time, threats, accuracy, costs, and the potential use of technology and information systems in business processes. The official travel assignment stage consists of drafting the ND, submitting the ND, verifying and validating the ND, submitting and making the SPT, verifying and validating the SPT, and filing the SPT. The results of the assignment stage analysis regarding potential fraud are shown in Table 2.

Table 2: Fraud Potential on Assignment Stage

Activities	Fraud Potential
Drafting and submitting the ND	Drafting ND without assignment basis
Drafting and submitting the SPT	Drafting SPT by other than the application operator

Source: Author's Archive (2024)

Meanwhile, the results of the analysis related to inefficiencies at the official travel assignment stage are presented in Table 3.

Table 3: Inefficiencies in the Assignment Stage

Activities	Inefficiencies	Time needed
Drafting and submitting the ND	Time inefficiencies	One workday
Drafting and submitting the SPT	Time inefficiencies	Two workdays

Source: Author's Archive (2024)

The official travel financing stage consists of activities for making nominative payment applications, verification and validation of applications by general assistants, verification and validation of applications by PPK, verification of applications by SAKTI operators, creation and submission of SPP, creation and submission of SPM, verification and validation of SPM by PPSPM, and publishing SP2D. The results of the analysis regarding potential fraud at the official travel implementation stage are presented in Table 4.

Table 4: Fraud Potential in Financing Stage

Activities	Fraud Potential
Creation of nominative payment requests.	Manipulation of requests, transparency of information, and fictitious input costs
Verification and validation of payment applications	Manipulation of applications, manipulation of substantive and supporting documents
Verification and validation of SPP and SPM	Manipulation of substantive and supporting documents
Issuance of SP2D	Manipulation of substantive and supporting documents

Source: Author's Archive (2024)

The results of the analysis related to inefficiencies at the official travel financing stage are presented in Table 5.

Table 5: Inefficiencies in the Financing Stage

Activities	Inefficiencies	Time needed
Making and Submitting Payment	Time inefficiencies	One workday
General assistant verification and	Time inefficiencies	15 minutes
PPK verification and validation	Time inefficiencies	15 minutes
Verification and validation of	Time inefficiencies	15 minutes
Creation and submission of SPP	Time inefficiencies	45 minutes
PPSPM verification and validation	Time inefficiencies	15 minutes
SP2D Publishing	Time inefficiencies	One workday

Source: Author's Archive (2024)

The official travel implementation stage consists of activities to order official travel accommodation, carry out official travel, and validate official travel documents. The results of the analysis regarding potential fraud are presented in Table 6.

Table 6: Fraud Potential in the Implementation Stage

Activities	Fraud Potential
Booking official travel accommodation.	Manipulation of cost rates, booking fictitious accommodation
Carrying out official travel	Carrying out fictitious official travel, duplicate service, manipulation of expense bills, manipulation of SPD documents

Source: Author's Archive (2024)

The results of the analysis regarding inefficiencies at the official travel implementation stage are presented in Table 7.

Table 7: Inefficiencies in the Implementation Stage

Activities	Inefficiencies	Time needed
Booking official travel accommodation		One workday
Carrying out official travel	Time inefficiencies	According to SPT

Source: Author's Archive (2024)

The accountability stage for official travel consists of cash collection activities by the treasurer, verification and validation of accountability documents by SPB, payment of official travel expenses, collection of completed documents, and verification and validation of completed documents. The results of the analysis related to potential fraud at the accountability stage for official travel are presented in Table 8.

Table 8: Fraud Potential in Accountability Stage

Activities	Fraud Potential
Collecting evidence and official travel reports	Manipulating evidence of expenses, manipulating official travel reports
Document validation and verification	Manipulation of official travel documents
Payment of official travel expenses.	Deduction of payment elements, embezzlement of funds

Source: Author's Archive (2024)

The results of the analysis related to inefficiencies at the official travel accountability stage are presented in Table 9.

Table 9: Inefficiencies in the Accountability Stage

Activities	Inefficiencies	Time needed
Collection of evidence and reports	Time inefficiencies	One workday
Validation of evidence and creation of receipts by SPB	Time inefficiencies	One workday
Payment of official travel expenses	Time inefficiencies	Two workdays
Completing document collection	Time inefficiencies	Three months
Document verification and validation is completed by PPK	Time inefficiencies	15 minutes
Document verification and validation is completed by the	Time inefficiencies	15 minutes
Document verification and validation is completed by	Time inefficiencies	15 minutes

Source: Author's Archive (2024)

Those potential frauds in the business process align with the findings of the BPK RI audit report as stated by Suprayitno (2017) that BPK RI classified the findings concerned travel expenditure deviation in 2012 as a special monitoring list by monitoring the follow-up of government financial statement audit report in the sub-title compliance audit report 2007-2014. Furthermore, regarding those findings, Setiawan (2016) stated that the practice of budget misuse potentially occurs in the bureaucracy, including official travel, in the form of fictious plane tickets, and even fictious official trip accountability reports.

Business Process Improvement

Dumas et al. (2018) state that the goal of process redesign (process improvement) is to identify changes to the process with the output typically a to-be process model. The next phase of the research is making process improvements based on the previous analysis phase. Based on the results of the analysis of each stage of the official travel business process, a form of control was formulated to increase efficiency and improve control to mitigate the risk of official travel fraud. Increasing efficiency and controlling potential fraud is carried out by identifying gaps in existing business processes and formulating improvements to business processes from various angles. The aspect of BPI is the administration, governance, and application of information technology.

An improvement approach is also carried out through the potential application of integrated information technology as a form of e-government System goal, which encourages the digitalization of government business processes as a form of control and increasing efficiency. The approach is consistent with the research finding of Sakuntala et al. (2024), where technology, particularly e-governance, blockchain, and AI, can help combat corruption by promoting transparency, accountability, and efficiency. Time efficiency is calculated from the change in how long each activity takes to carry out after implementing efficiency improvements through recommended BPI. The results of recommendations for improvement are outlined in business process design modeling, which can be input for stakeholders in implementing the official travel business process. These steps align with

Davenpot and Short (1990, as cited by Gross et al. (2020) that process redesign refers to the analysis and design of processes within and between organizations.

Based on the recommendations, a BPI model design was created, which has implications for increasing control through end-to-end processes by the system and increasing business process time efficiency from around three months to four days. Improved control in the travel expenditure business process could prevent misconduct in government expenditure as control will be applied in some procedures of official travel assignment from issuing an assignment letter until the accountability stage. Increasing the control of business processes is aimed at closing gaps that create opportunities for fraud. Opportunity is an element of fraud based on the concept of the fraud triangle. The recommendations align with research findings indicating that effective internal control implementation positively impacts corruption prevention efforts (Dimitrijevic et al., 2015; Hamdani & Albar, 2016; Hafizah et al., 2019).

The implications of implementing BPI recommendations on business processes are changes in regulations related to the management of official documents, policies on system use in business processes, regulations on payment for government official travel expenses, and additional budgets for increasing hardware and software capacity to accommodate increased service capabilities and database capacity. Regarding these implications, the organization needs to consider budget availability carefully. As stated by Beerepoot et al. (2019), without a thorough estimation of the resources and organizational change, it can endanger the continuity of the improvement process. Besides, it also requires additional budget and workforce resources for implementation of system development, service, and maintenance, including time for development and integration among the systems. Implementation of services for the continued use of the system also implies changes in the pattern and timing of working hours by the system development team to accommodate real-time use of the system so that regulatory changes are needed regarding the differentiation of working hours for the system management team. The results from BPI show changes in Table 10.

Table 10: Business Process Improvement Implications

Existing	Recommendation	Explanation
Physical creation and submission of documents	Eliminated and carried out through the system	Reduced redundancy of document printing and document manipulation gaps
Physical document verification and validation	Eliminated and carried out through the system	Reduces document mobilization redundancy and document manipulation gaps
Bookings for official travel accommodation	Eliminated and carried out through the system	Reduces SPB job descriptions, reduces manipulation gaps, and centralizes databases
Validation of official travel	Eliminated and replaced with the geotagging method	Reduced manipulation gaps, centralization of databases, and forms of system control
Management of funds and payment of official travel expenses in cash	Eliminated and replaced through non-cash mechanisms	Reduced redundancy in cash management, SPB job descriptions, and reduced gaps in inappropriate use of funds
Physical collection of documents	Eliminated and replaced through systems and centralization of databases	Reduced redundancy in document collection and reduced gaps in document manipulation

Source: Author's Archive (2024)

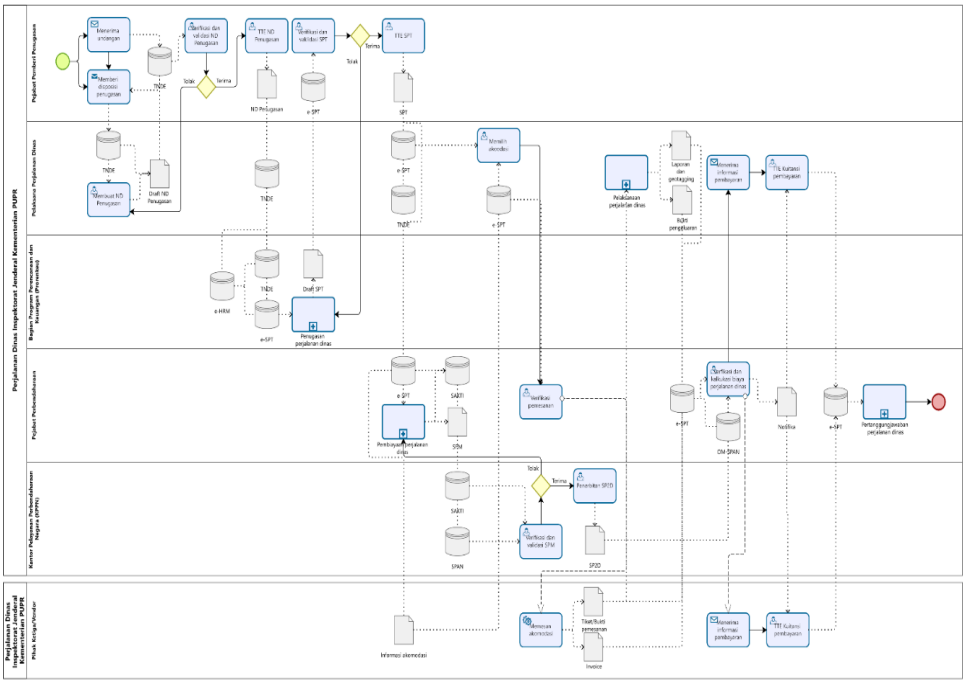
Implications related to increasing efficiency can also be seen in terms of accelerating the official travel business process from the assignment, financing, implementation, and accountability stages. The use of systems and automation causes efficiency, the reduction of SPB job descriptions, the centralization of databases, and the integration with providers. A description of the time efficiency of existing business processes and recommendations is explained in Table 11.

Table 11: Business Process Improvement Implications on Efficiencies

Activities	Existing	Recommendations Result
Official travel assignments	3 days	1 day 1 hour
Official travel financing	2 days 1 hour 45 minutes	1 day 35 minutes
Implementation of official travel	1 day	15 minutes
Accountability for official travel	3 months 4 days	2 days 30 minutes
Total	3 months 10 days 1 hour 45	4 days 2 hours 20 minutes

Source: Author's Archive (2024)

Time efficiency is obtained from reducing redundancy in the business process of creating and submitting documents, verifying and validating documents, automating document creation using database integration, integrating with third-party databases, using non-cash mechanisms and third-party LS, and collecting databases by the system, thereby reducing the time needed to create documents from scratch, print documents, mobilize documents, manual verification and validation, manual accommodation reservations, validation of official travel, cash payments, money management, and collection of official travel accountability documents. The improvement of the official travel system by adopting non-cash mechanisms aligns with the research findings of Kurniati & Nugroho (2020) and Setor et al. (2021), which suggested that digital payment transactions can help reduce fraud. Based on the BPI from each stage of the overall official trip, a business process model is developed, as shown in Picture 3.



Picture 3: Business Process Recommendation
Source: Author's Archive (2024)

CONCLUSION

Based on the analysis and design of BPI in the official travel business process, it can be concluded as follows:

1. Concerning the results of identification and analysis of potential fraud and inefficiency at each stage of the business travel business process, there are potential fraud and inefficiency in the form of manipulation in terms of documents and processes, lack of transparency regarding information, nominal manipulation, embezzlement of cash, withholding of payment elements, manual and paper-based business processes, intrinsic potential and integration between systems has not been maximized, and cash management has not been maximized. These findings cause the potential for fraud and inefficiency both in terms of time and cost.
2. Recommendations for control and efficiency improvement are formulated in the form of integration among the internal systems, goods or services providers, travel agents, digitalization of documents, and the document submission process. Besides, the system should apply digital signatures, implement end-to-end processes, incorporate geotagging, utilize third-party LS mechanisms, and centralize official travel document databases. The recommended controls and efficiency improvements are designed to minimize opportunities for fraud and enhance efficiency, both in terms of time and cost.
3. The implications of implementing BPI recommendations on business processes are changes in regulations related to the management of official documents, policies on the use of systems in business processes, regulations on payment for government official travel expenses, and additional budgets for system development and maintenance. Additional costs are also required to carry out procurement and upgrades in terms of hardware and software to accommodate system and storage capacities that require more capable clients and servers, including time for development and integration between systems.
4. The scope of this research is limited to redesigning the business process in the official travel expenditure system. The study does not extend to the development of travel information systems. Forthcoming research is encouraged to explore the development of an official employee travel information system.

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