# Indonesia terrestrial border control information system and business processes alignment

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**Abstract:** The information technology (IT) has enhanced the effectiveness of the business processes in all sectors. IT has rapidly developed but becomes a technological disruption for the industries too. IT professional decisions are based on specific requirements and user needs. The investment bases are business processes and the IT alignments. The terrestrial border control systems of customs, immigration, and quarantine (CIQ) are still manual. The traveller passports or '*Pas Lintas Batas*' (PLB) documents are collected, based on the customers' handwriting on the arrival or departure immigration cards. These are challenging works for the officers in organising the archiving, retrieving data, and developing reports. The researchers use AS-IS and TO-BE methodology within the software development lifecycle and aim to produce an effective, efficient, and secure '*Sistem Informasi Pelintas Batas Wilayah Indonesia*' (SINTASWIN) prototype. This prototype application system is user and environmentally friendly, cross-platform, and has a high return on investment.

**Keywords:** immigration; CIQ; custom, immigration, and quarantine; PLB; *Pas Lintas Batas*; AS-IS and TO-BE; SINTASWIN prototype; business process and systems alignment; cross-platform.

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# 1 Introduction

The information systems and technologies have been designed and developed according to the business requirements they purpose for the effectiveness of the business operations. A lot of the innovations towards information systems and technologies have been developed and will continue to develop to facilitate how the institutions, organisations, and industries operate. The ideas and innovations are rapid growth, and they create new market opportunities and challenges. The newly introduced technologies and systems will also contribute to the disruption of the institutions and industries, including the market. The old technologies and systems become very quickly obsolete, less efficient in terms of the time of the processing, vulnerable systems, and high maintenance cost. Meanwhile, according to Bower and Christensen (1995), new ways of doing business and administration processes are built-in and are intended to fulfil local and global demands. These all are demanding a new proper implementation of the technologies and systems and enhance people's capabilities for using, maintaining, and operating them.

By failing to meet local and global demands, the institutions, organisations, and industries will not have competitiveness within the time compressing and with the others who have the most advantages of the technologies and systems. Therefore, it is imperative for framing the information systems and technology within the business operations. The implementation of the workflow, data integrity, scalable, open-standard, and social capabilities framework will be impacting the sustainability of the technologies and systems within the institutions, organisation, and industries operations. This concept is highly important and relevant for the automation of the business processes and the information technologies and the systems' alignments. These five modalities framework above, the researchers will be based on to design and implement the system and their infrastructure. Furthermore, Christensen (1997) stated the speed of the technological progress is often outstripping what markets require. The technological approaches can change the market direction as well. The institutions, organisations, and industries are heavily invested in the new systems and technologies to boost their productivities, produce high-quality products, and sell. Especially, for those big institutions, organisations, and industries that have the capital capabilities (Christensen, 2015). The rest who have no adequate financial capabilities will remain the same, and they will fail to compete.

According to Park and Hong (2015), the global market reality has forced the institutions, organisation, and industries to implement a proper technology and system in their respective entities to speed up and to facilitate all of the business administration processes, processing quality products, marketing products, and its operations. In any chosen system and technology architecture framework, information technology (IT) and system are built upon the institution and industries' vision, mission, and strategies. Moreover, by using the selected framework, we can easily examine and analyse the prototype concepts and systems. Not only, but the chosen system is also effective, efficient, and secure toward business operation, however, it should have a high return on the investment. In other words, the details of the system implementation and the system integration are within and met the customer requirements and needs.

The obstacles for the IT professionals are to decide and to adopt new technology and systems that may have an uncertain future in terms of the quality and costs to the consumers. Therefore, Smith and Ulu (2012) stated the IT professionals overcome the uncertainty of the technology's quality as follows: First, assuming that the customers will adopt or not a new technology, based on the net present value (NPV) analysis. Second, it is possible that consumers may be waiting and looking for the right time to do technology and system purchases. Third, customers may repeat a purchasing order, such as purchasing new technologies and its versions and licenses. Sometimes, we should decide to develop an application system internally or it will purchase from third parties.

The influence of technological efficiency in the organisation will cause high competition impacts. However, if the institution or organisation is moving into the new technology or staying with the former technology is depending on the financial ability and the leadership vision, Buchta et al. (2003). The larger industries and institutions are intensifying the business processes and the IT alignment for effectiveness, efficiency, and secure operation whereas create quality products, knowledge, and to the collaborations (Kremp and Mairesse, 2004). Meanwhile, according to Lauren and Daniella (2017), the ethics of the technology users become a crucial part and it needs more close attention. The ethics are an essential part of the company/institution/organisation which will need, be continually improved, and finally creates an institutional culture for efficient operations (Alter, 1976).

In this research, the researchers will be focusing on 'Wini' 'Pos Lintas Batas Negara' (PLBN) – integrated terrestrial border management and controls. The terrestrial border control consists of the customs, immigration, and quarantine (CIQ) departments. The researchers will also assess the current (AS-IS) IT infrastructure and its support system in 'Wini' PLBN as a base for designing and developing future (TO-BE) a 'Sistem Informasi Pelintas Batas Wilayah Indonesia' (SINTASWIN) application system. Additionally, for this initial stage, the researchers will be prototyping the TO-BE model to improve the immigration authority service deliveries.

The immigration authorities on duties and services are controlling and administering all communities' business activities. Especially, the immigration officers are administering all of the communities' movements alongside borders, in and out of the country. The current administration processes are defined as the manual and semi-manual system. The immigration authorities in '*Wini*' PLBN are collecting cross-borders passports or PLBs identities manually and it is including travellers' handwriting that they wrote on the arrival and departure immigration cards. The immigration officers will base on this information for allowing a traveller to enter the country or depart from the country (Efendi, 2014). The research found manual an unstructured data storage in the filing cabinet, lot of archiving hard copies, difficult in the retrieving data, and presenting the reports, such as difficult to identify the purpose of visit in timely manner, which part of the province that the travellers are spent a lot of their time while they are in the country, etc. Moreover, the immigration authorities in 'Wini' PLBN had difficulties in monitoring and controlling the passer length of stay in the country. The immigration authorities in 'Wini' PLBN spent a lot of time to find specific cards and shorting them and produce a report. This has contributed to the high-level border violations for both countries too.

The problem mentioned above will reduce and even eliminate by aligning business processes management and information systems management (ISM). On another hand, the researchers and information technology (IT) professionals should identify proper technology, design systems, and proper applications. These can translate the business process, needs, and requirements into the paperless automation. These design systems and applications will support and ensure the immigration department has high productivities and has a high return on the investment. The time compressing demands every institution and it is including the immigration department, especially the immigration department in 'Wini' PLBN to be more accurate, rapid, updated, integrated processes, able to collaborate, and the prototype application is user-friendly and environmentally friendly (Markus, 2001).

#### 2 Legal bases on the terrestrial border control

The Act No. 43, 2008, it is about the country boundaries. It is a drawing line between two neighbour countries' sovereignty. The law is based on international law (Indra, 2013). Additionally, it is explained that the border region of the country territory is situated on the side of Indonesia. The Indonesian terrestrial border areas, especially in the districts have not been getting proportional attention. The inhabitants are unevenly spread on the border area. Similarly, the information communication and technology (ICT) infrastructure is less developed. The Human Resources (HR) qualities and capabilities are relatively low. The education and health services are limited. The industries are not fully developed yet. Almost all economic activities still depend on raw materials. Moreover, the security perspective in the region (terrestrial border) is in the worrying stage. There are several issues namely 'Ambalat' Block, 'Bidadari' island, and illegal crossing border (Rani, 2012). The central government and the provinces have less focuses on territorial policies and strategy development (Mulyawan, 2012). Since December 8th, 2014, the central government has drafted the national strategies and policies especially focusing on terrestrial border control and it is management. The presidential regulation number 179, the year 2014 is a border management regulation for the East Nusa Tenggara province. Based on the presidential regulation, Minister of Justice and Human Rights published in the State Gazette number 382, dated December 10th, 2014, stated that the delineation of the land and sea border of East Nusa Tenggara province. The implementation of this terrestrial border management needs integrated infrastructure support. This is later called '*Pos Lintas Batas Negara*' (PLBN).

#### 3 Methodology

#### 3.1 Research location

The research will carry out in the three integrated PLBN entry port areas. These PLBNs locations are situated in the 'Belu', 'Malaka', and 'North Central Timor' districts. The PLBN designated ports for the in and out of the countries are in the 'Wini', 'Mota Ain', and 'Mota Masin' PLBNs. These PLBNs ports and distance can be found on Google maps. The 'Wini' PLBN has direct border-line with the 'Oecusse' enclave, the autonomy district of the Timor-Leste country - it is a special economic zone of the Democratic Republic of Timor-Leste. This is a busy terrestrial PLBN. A lot of travellers are in and out through this PLBN. Therefore, it is important to have a capable application to handle business activities such as CIQ. The prototype SINTASWIN application will capture all relevant information; automate approval processes, monitor the travellers, and produce an easy and quick reporting system. The travel destination from 'Wini' to 'Mota Ain' will take about 3 hours 44 minutes. The travellers can drive through and enjoy attractiveness views of the natural beach site, natural mountain views, and friendly communities living alongside the beach. The direction shows in Figure 1.

The 'Mota Ain' PLBN office operations are similar to the 'Wini' PLBN operations. This 'Mota Ain' post is a busy port too. A lot of economic activities and community movements are checked and administered in each of the CIQ offices. It needs better coordination between the CIQ offices. The SINTASWIN prototype application can be implemented in this port as well. The travellers can be checked in from the 'Wini' PLBN and checked out in the 'Mota Ain' PLBN or vice versa or other designated ports. The prototype can handle this operation effectively. Even, the immigration officers in these two PLBNs offices can monitor and produce reports easily. This is one of the immediate contributions of this research. The travellers can also enjoy the attractiveness of the natural views of the mountains and beaches and release their stress while driving through. The travel destination from 'Mota Ain' PLBN to 'Mota Masin' will take approximately 57 minutes and as shown in Figure 2.

Figure 1 'Wini' PLBN to 'Mota Ain' PLBN (see online version for colours)



Although the distances of the PLBN ports are quite far, however, all of the PLBN operations are similar. The communities living alongside the border for both countries are having a family tree or blood-related families and cross marriages for both countries. Therefore, they have special service such as communities have '*Pas Lintas Batas*' (PLB) documents. The '*Mota Masin*' PLBN also serves the communities living alongside both countries' citizenship such as cross-border travellers in the immigration office, the export, and the import customs clearance in the customs office, and foods and animals quarantine clearance services in the quarantine office. Therefore, each of PLBN must have to optimise the information systems and technologies to facilitate their effectiveness in the services. Moreover, it will contribute to and facilitate the country's tax collections, economy, and become a good country image. The SINTASWIN prototype application can be utilised in this port as well. All collected information will be recorded on the SINTASWIN application. Every PLBN officer, especially immigration officers from these three PLBNs, can process the approvals, allowing the cross-border travellers *in* and *out*, monitoring the travellers and produce a quick reporting system. The travel destination from '*Mota Masin*' PLBN return to '*Wini*' will take about 4 hours 39 minutes as shown in Figure 3.

Figure 2 'Mota Ain' PLBN to 'Mota Masin' PLBN (see online version for colours)



Figure 3 'Mota Masin' PLBN to 'Wini' PLBN (see online version for colours)



Figure 4 'Wini' border as a focus area (see online version for colours)



In this research, we will be focusing on the 'Wini', the North 'Insana' sub-district, North Central Timor, East Nusa Tenggara province. Why should it be in 'Wini'? The reason is 'Wini' has a direct border with the Timor-Leste enclave ('Oecusse'). Since 2015, the 'Oecusse' enclave district becomes a special economic zone and has autonomy region and governance from the Democratic Republic of Timor-Leste (RDTL). 'Wini' is one of the Indonesia strategic portals for the Timor-Leste's enclave ('Oecusse'). The RDTL much more depends on Indonesia's goods and services. A lot of Indonesia products, services, and local products ('Wini') are exported through 'Wini' PLBN. Moreover, the domestic and international travellers are in and out of both countries for exploring both 'Wini' and 'Oecusse' cultures and tourism objects. The 'Wini' is located at 9° 10' 51.6" South latitude and 124° 29' 27.6" East longitude. The 'Wini' and 'Oecusse' region can be found on the following map, Figure 4.

#### 3.2 Research methodology

The initial methods for the gathering of data and the information for the business processes and ISM alignments are through the observations, the interviews, and the questionnaires. The researchers use all gathered information, then analyse and design the preliminary model to fulfil the user requirements and needs (Hasibuan and Utomo, 2012). In this case, the users are the immigration officers in the '*Wini*' PLBN. The flow processes of the data gathering for specific purposes are according to the business analysis model as follows:

*Step 1*: Elicit all requirements for the Business Requirement (BR). In this case, the elicitations of the requirements processes are through physical observation, interview current system users and its customers, and delivery questionnaires. Herewith the AS-IS model is formed. The AS-IS is a current situation model.

*Step 2*: Develop a scope vision report (SVR). The researcher and business analyst (BA) will put all necessary information bases on the AS-IS model and then describe it in the SVR document for the stakeholder approval. Herewith the TO-BE model is formulated.

Step 3: Develop work requirement plans (WRP) for future applications. The researcher, System, Analyst (SA), and BA will continue developing a business requirement

plan (BRP) document for stakeholder approval. This document consists of all the details of the application, how it will be impacted by the existing system and business operation. It includes the requirement for financial details.

*Step 4*: Develop a business requirement document (BRD) as a base for developing any application. The final model of the requirement of the application is developed in the BRD for the stakeholders' approval. The application may develop in the phases, because of the business operation and financial constraints. Herewith, the clear structure of the specifications such as specs, platform, specific engineers, and business and system alignments or re-engineering current system for developer and engineer to build a TO-BE model for the business. The BRD is the base of the testing case of TO-BE model.



Figure 5 A scientific software development by RB (see online version for colours)

Source: Adopted from Segal and Moris (2008) and BABOK (2008)

These four steps above are very critical for any business processes and information system infrastructure alignments. It may cause the scope to creep in any of the information technology (IT) projects development, management, and implementation. This will contribute to product failure and financial losses for the institution or organisation. It can be seen in Figure 5.

## 4 Discussion

#### 4.1 AS-IS and TO-BE

Many alternatives to the methodology usages for the designing, developing, and implementing system applications should be in line with business processes, strategies, vision, and mission of the organisations. Therefore, any chosen method has to be in the software development life-cycle (SDLC). The researchers will practically utilise experts such as business analysts, system analysts, and system design and development (Alandri, 2013). Enterprise development projects, including this SINTASWIN prototype application system, have to be

systematic, effective, efficient, secure, and coherent within an institution or organisation's vision, mission, and goal. Therefore, they are according to Amalia and Supriatna (2017), the paperless automation, the green environment or environmental friendly systems, etc. The researchers are focusing on the SINTASWIN prototype application quality, return on investment, secure, effective, and efficient in business operations and it is in the open standard, the automated workflow, the data and information integrity, and the social capability framework (Pressman and Maxim, 2014).

Furthermore, to enhance researchers' scientific software development methodology, the researchers in this research project used the AS-IS and TO-BE. The AS-IS model (current state) reflects a real condition of the institution whereas the goals, constraints, the missions, and facilitates the root cause analysis. The researchers will collect all necessary information within root cause analysis, observation, and interviews. The participants for these processes are the high level of decision-makers, middle managerial, system users, system operators, Business Analyst (BA), System Analyst (SA), system design and developers.

**Table 1**AS-IS and TO-BE model from BABOK (2008)

Differences between AS-IS and TO-BE modelling	
AS-IS (current state)	TO-BE (future state)
Analysis covers the business area as needed	Analysis covers all change areas and their relationship to other areas
Models may be incomplete	Models are completed and unified
Analysis may be a mix or formal and informal techniques	Analysis is formal and precise
Models specify areas for change	Models extend solution vision, highlighting changes from AS-IS

The TO-BE model (future state) guides the requirement elicitation and provides a unified view to manage the information, the business processes, the workflow, the use case scenario, and the business rules. Once the elicitation is completed, the BA integrated the user requirements, within the TO-BE model, develop a complete package to guide the solution designers and developers. Herewith, the business process and IT alignments are taking place. Table 1 shows the differences between the AS-IS and TO-BE model.

# 4.2 Modern frameworks

At the beginning of this research work, we mentioned the five modalities namely: the workflow, the data integrity, the open standard, the social capability, and the scalability. These all are to ensure the cost-effectiveness in terms of capital investment into the new development systems (Kashfi, 2017). Is it resulting in a significant return on investment (ROI)? Is it fitting to the business requirements

and needs? Is it reducing the manual workload? Is it reducing paper works? Is it reducing the time for searching or time consumption? Is it reducing the data duplications and saving storage capacities? And is it auditable systems? These frameworks are most important in developing a new system application. According to Hall and Fernandez-Ramil (2007), this ultimate parameter measures the business processes and the IT alignments.

It is important that at the very beginning of introducing a new application design system, the researchers' team should ensure that the ability of the new application design system can integrate within the existing systems. Otherwise, a new application design system might be just a fancy and not be fully utilised. Therefore, the existing systems should be verified whether or not those systems are based on open standards, scalable, and cross-platform capabilities. E.g., the researcher assesses the data exchangeability within other applications within a currently existing system and with a newly developed application. After assessed the existing applications, researchers found that no historical data captured. The existing applications and infrastructure was not scalable and not compatible with cross-platform. The new arrangement prototype fits to recommend framework. The assessment flowchart process can be seen in Figure 6.

Figure 6 RB current system assessment (see online version for colours)



The data integrity framework becomes an integral and important part of this new prototype application design system. How can the system log all the historical data? It is because the new application system can overwrite any of the existing data or just delete them accordingly. How can the system keep the historical data, document versions, and forms versions? The purpose of these process designs will ensure system integrity for future auditing. The data integrity process design system can be seen in Figure 7.

The workflow framework capability is the ability of the application system in which can identify the roles and routes of the hierarchical structure. The business roles and hierarchical structure will allow objects such as the created forms and the documents are automatically moving through the application system. The idea behind this arrangement is paperless automation. The ability of the open standard framework allows the developers to design user-friendly interfaces. The developer should be focusing on the new creating the standard of the system operations are compatible with the common operations; a standard interface that allows the user to interact with the systems without requiring user training. For instance, the **save** command shortcut is S, the **printer** function shortcut is P, the common navigation, and other common shortcuts, etc.





Figure 8 RB modern framework (see online version for colours)



The social media framework in the application design system is important. It is powerful tools and resources within created application systems; social capability becomes an integrated part of nowadays technology and system development. The aim is enabling the team to Connect, Communicate, Coordinate and Collaborate (4Cs). This enables users to share data, information, and knowledge more effectively.

The scalability framework will allow the designers and developers for adjusting and adapting business requirements and needs. The new application design system will be adjustable to the current system. Being scalable means reducing or to enlarge the current system is not having a problem with the whole operating system. These modalities are essential for guiding the IT professional to decide and recommend a proper and ward investment information system which will always be aligned with the business process requirements. The modern framework can be seen in Figure 8.

## 5 Result

#### 5.1 Prototype application design specification

There are three main focus areas of prototyping the SINTASWIN application system. The access profiling is tools for giving the access abilities for the application prototype system users, to do business processes, forms design, design the workflow, design the data integrity, design the open standard, design the social capabilities, fill up the forms, and the approvals processes. While the system administrator and the developers are administering, designing, developing, and engineering the implementation of the SINTASWIN prototype application system. The business roles are defining the hierarchical structures, controlling, and managing the accessibility of the forms, views, reports, and approvals. The administrator profiling will use for managing the access, design, and develop the system, as shown in Figure 9.

#### 5.2 Prototype specification

Based on the RB application design diagram above, researchers are prototyping specification details as follows:

- Access profile:
  - 1 the user/anonymous only has a right to edit and review his or her entry data until it saved and will not be able to review it again; in another word the form id locked and move automatic to the first approval desk for review and approval
  - 2 first approval have right to edit review forms compare to the passport information, plus attached fingerprint, picture, and approve; form locked and move to the second level
  - 3 second approval review and compare to existing information then approve; at this time customer/traveller/passer get the notification that is being allowed to enter or refused.
- Business roles/hierarchy:
  - the anonymous user (a first time becomes a system guest) – user (could be second times or often use the system and the user information has been recorded)
  - 2 *immigration manager*: review, adjust necessary information to all documents the approve/ refuse
  - 3 *head supervisor*: verified information do approval documents in this context approve/refuse, and reporting systems

4 *the administrator/developer*: developer design roles, form, workflow, audit the data integrity, social capability, and scalability of the system. The business roles process can be seen in Figure 10.





To enhance these processes, the researchers' team comes up with an equation to measure the ability of the workflow is effective and efficient.

 $WF = Border Passers + Manager + Supervisor^{1}$  (1)

$$WF = \sum_{i=1}^{n} Ed_i \left( Rev_i \right)^2 + Ed_i \left( Rev_i \right)^2 \left( AppL_1 \right)_i$$
  
+ 
$$Ed_i \left( Rev_i \right)^2 \left( AppL_2 \right)_i$$
(2)

$$WF = \sum_{i=1}^{n} Ed_{i} (Rev_{i})^{2} (1 + (AppL_{1})_{i} + (AppL_{2})_{i}$$
(3)

where, the *WF* stands for the workflow *I* the modern framework. The *Ed<sub>i</sub>* stands for editing or data inputs in all of the mandatories fields of the form (*from i* = 1 *and n* >= 1); the  $(Rev_i)^2$  stands for the reviewing and revising (reviewing (from *i to n*) square) until the form is free from the errors then the form can be sent to the manager for reviewing and approvals. The  $(AppL_1)_i$  (from *i* to *n*) stands for the level 1 approvals and arrange the additional attachments such as fingerprints and the pictures, and the  $(AppL_2)_i$  stands for the level 2 approvals. These mean that all of the three users'

areas (the border passers, manager, and supervisor) are having interdependencies. These processes are to ensure the accuracy of the data and the information in the system.

# Figure 10 Basic framework process (see online version for colours)



• Form page:

There was the mobile main page that guides anonymous users to choose their preferred language button – **'Indonesian** or **England flag Button'** as a point to directing the form it shows in Figure 11.

Figure 11 User interface form page (see online version for colours)



Once the anonymous and the port authorities or immigration officials browse the SINTASWIN website, the SINTASWIN application prototype appears. The anonymous can choose one of the preferred languages based on the flag button. The site will be directing users to empty forms. All mandatory field needs to be filled up. At the same time, users can review their forms. The user only able to see the welcome page, entry form based on the selected language, fields, and the submit button as in Figure 12. Form process:

As soon as anonymous filled all required fields and presses the '**Submit**' button, the form is locked and moves to the first stage then to the second stage for reviewing, verifying and finally approve or refuse.

View process:

All agreed/refuse documents and forms can be viewed and adjusted by the authorities, however, these historical data changes are recorded under each field for auditing purposes.

Figure 12 Entry form (see online version for colours)

Submit	
	Critizenship*
NEW APPLICATION FORM	Place of Issue of passport."
Person	Diana of Birth
- Croon	The second secon
First name"	Date of birth
	hh/bb/tttt
Last name"	Orstupation
	Cooperan
Sex"	Email
Mala Esmala	
Nationality -	Transfer
Nationality	
	Mota Alp. O Wini O Mota Masin
Passport number*	
	Fight number
Passport expiry date"	Final destination
hh/bb/tttt	
Visit	
Purpose of the visit	
Business	•
For official visits - (VISA)	
Length of stay	
Diace of residence at the time of vi	elt.
Place of residence at the time of vi	212
Address in Indonesia	

Figure 13 SINTASWIN infrastructure (see online version for colours)



#### 5.3 Infrastructure specification

This 'Sistem Informasi Pelintas Batas Wilayah Indonesia' (SINTASWIN) prototype application was developed on the IBM Domino Designer. The IBM Domino has capabilities such as cross-platform, workflow, secure, open standard, scalable system, and social. On top of that IBM notes storage facility database application, the ClevaDesk application optimises the IBM Domino Designer ability to manage the business roles for the workflows, data integrity, secure, and scalable as it shows in Figure 13.

#### 6 Conclusion

The automation prototype application system, the SINTASWIN was properly developed for the integrated The SINTASWIN prototype application PLBNs. implemented in the 'Wini' PLBN or immigration office. This prototype application can replicate to the other terrestrial PLBNs within Indonesia territories such as 'Mota Ain' and 'Mota Masin'. Moreover, this SINTASWIN prototype application still needs an enhancement according to the business requirements and the IT alignments. The IT professional needs to make a professional adjustment to minimise the IT disruption in the institution, organisation, and other industries. The lesson learned from this SINTASWIN prototype application was for the developer, business analyst, system analyst, and system designer whereas any future build software applications within SDLC shall base on the five modalities frameworks namely: the open standard, the data integrity, the workflow, the scalability, and the social capabilities. The team has to in synergy in delivering IT and business alignments. These modalities gave a high contribution to the developers, immigration officers, system designers, and other software development teams. The SINTASWIN prototype application has a high Return on Investment (ROI), especially for the PLBN institutions.

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## Note

<sup>1</sup>Border passers are the travellers who request the visa by using arrival and departure forms. A manager is an immigration official who performs the first level of the approvals. A supervisor is an immigration official who performs the verification and second level of the approvals.