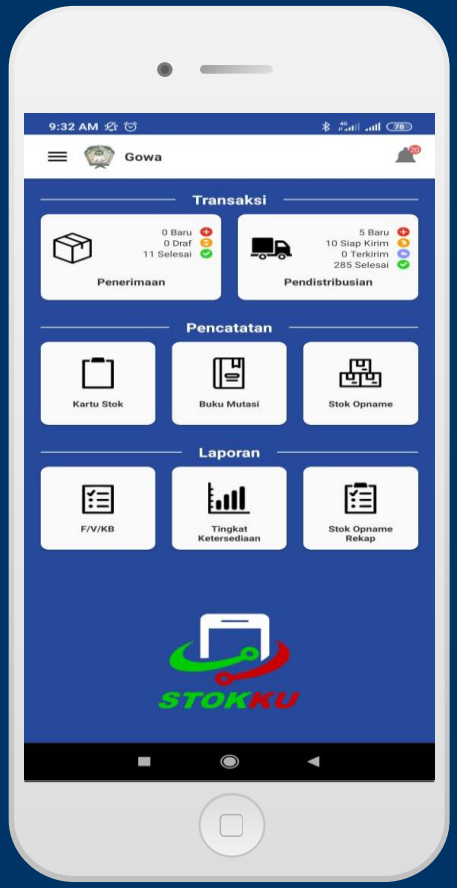
Digitization of Family Planning Supply Chain System in Indonesia



JOHNS HOPKINS Center for Communication Programs

PilihanKu

JSI

Digitization of Family Planning Supply Chain Systems in Indonesia

This document was produced by JSI Research & Training Institute, Inc. (JSI) under the My Choice Project (PilihanKu), with funding from the Bill and Melinda Gates Foundation (BMGF) through the Johns Hopkins Center for Communication Programs (JHCCP), for work undertaken from November 1, 2014. to September 30, 2021. The supply chain component of the project was implemented by JSI with the objective of strengthening contraceptive commodity supply chains and improving contraceptive availability in in Indonesia.

Acknowledgments

JSI would like to thank all the respondents who participated in this evaluation for their valuable inputs, including respondents from BKKBN Central and Province, District family planning office, and facility level. This work would not have been possible without the support of the Johns Hopkins Center for Communication Programs and the My Choice partners, as well as the dedicated effort by JSI staff and consultants who were part of the project team. Finally, we would like to thank our vendors Hashtag Tech P.L.C. and GITS Indonesia who led the development of the digital applications.

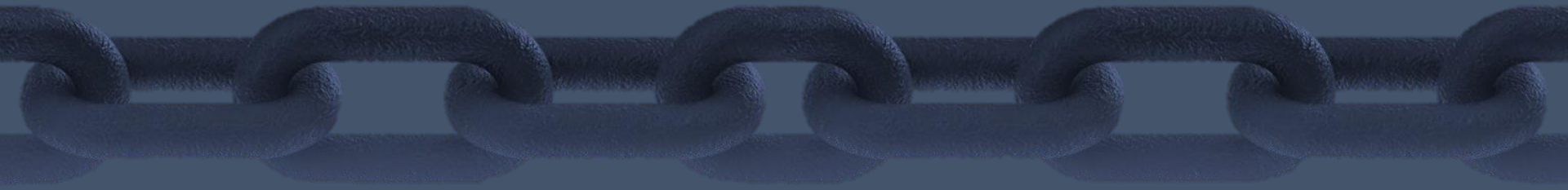
Abstract

This report describes the background, methodology, and findings from the end of project evaluation of the impact of supply chain digitization interventions on the family planning supply chain in the My Choice districts in Indonesia, and provides related recommendations.

Authors

Omar Balsara, JSI. Barbara Lamphere, JSI. Titin Juhartini, JHCCP. Ambar Mirantini, JHCCP

Table of Contents



Overview and Background

My Choice Project Overview

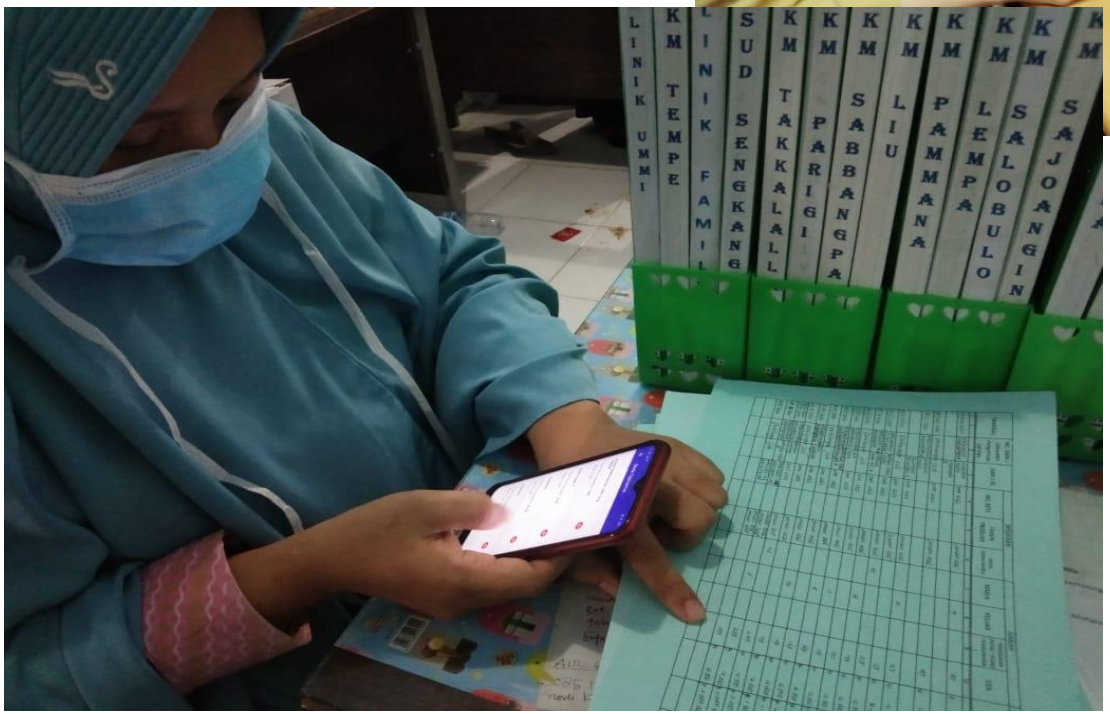
The My Choice project works in partnership with Indonesia's national family planning board, BKKBN and is designed to create a consumer-focused, consumer-driven approach to assist Indonesia in addressing its stagnating CPR, unmet need, and skewed method mix. By focusing on both demand- and supply-side factors, including consumer life stage, facility readiness/postpartum FP, supply chain management (SCM), and leadership and advocacy, My Choice has developed an integrated demand-supply model to reach a new generation of FP adopters.

Supply Chain Management

The project adopted a comprehensive systems-based approach with an aim to strengthen the supply chain workforce at each level, empowering them with new tools, skills and information to enable holistic and continuous supply chain improvement.

Phase 1 (2015-2019): The project collaborated with stakeholders to design a comprehensive package of data centric supply chain interventions that addressed critical gaps in the system. In the first phase that began in 2015, the project worked in 11 districts across 4 provinces. A baseline assessment was conducted collaborating with stakeholders at each level of the supply chain to identify needs and formulate implementable solutions. Implementation in 11 districts led to positive results; in 2019 emphasis shifted from implementation to a technical assistance model where the project supported 4 provinces to scale up to all districts in their province using their local resources. At the same time the project also worked at the central level to update supply chain policies and standard operating procedures based on the supply chain strengthening implementation results from the four provinces.

Phase 2 (2019-2021): During implementation of the first phase of the project, project staff identified other areas that needed improvement. It was observed that warehouse management practices were not optimal and there was a need and opportunity to digitize supply chain operations to make the system more efficient. This led to Phase 2 of the project, which began in 2019 and is the focus of this report. In this phase the project collaborated with BKKBN to develop and roll out a suite of digital tools including a mobile application for warehouse management and a web-based application for distribution planning and monitoring. Following a successful pilot in one province across 24 districts, BKKBN decided to integrate the tools into their policies and roll out the applications nationwide across all 34 provinces and 512 districts.


KM TEMPE
KM TAKKALALL
KM PARIGI
KM SABBANGPA
KM LIU
KM PAMMANA
KM LEMPA
KM SALOBULO
KM SAJOANGIN
SUD SENGKANG

Executive Summary

Background: The My Choice project has made a significant contribution to support supply chain (SC) system strengthening for the family planning (FP) program in Indonesia. The success of the FP program is largely dependent on the performance of its supply chain as it supports Indonesia's large network of 34 provinces, 530 districts and over 17,000 FP service delivery points. From 2015-2021, JSI led the implementation of the supply chain component of the My Choice project collaborating with Indonesia's National Family Planning and Population Board (BKKBN) and local government stakeholders. The project designed and adopted a comprehensive systems-based approach with an aim to strengthen the SC workforce at each level, empowering them with new tools, skills and information to enable holistic and continuous supply chain improvement. Beginning in 2018, the project led the digital transformation of the FP supply chain with an aim to make it more efficient, resilient and responsive. The project conceptualized, developed and rolled out a suite of applications that digitizes SC operations at each level of the chain. These applications are currently being used by most provinces and districts and a few health clinics across the country.

Findings: The digital transformation of the FP supply chain has had a significant impact on SC operations, shifting from a rigid paper based system to a dynamic digital ecosystem that provides end-to-end visibility and transparency. Most users said that using the applications has benefited them, made their job easier and has reduced their workload, allowing them to spend more time on other tasks. The distribution process has become simplified as the application automates the calculation and generates the distribution plans. It also allows users to easily schedule and track distributions making the process more efficient. Digitization has greatly enhanced data visibility and users appreciate the real time visibility to track supply chain performance from anywhere. Overall the implementation of the digital applications has improved SC operational performance resulting in improved product availability at all levels of the supply chain.

Recommendations: A solid foundation for the supply chain has been built, and moving forward it will require a well coordinated effort by BKKBN and local government stakeholders to continue to maintain the system and strengthen it further. An immediate transition of the management of the applications from the project to BKKBN is needed urgently. This will ensure the sustainability of the system as project support ends. Consistent use of the digital tools by all users will be key in ensuring standardization and compliance with inventory management procedures, good recordkeeping practices and availability and use of high quality data. Finally, BKKBN must ensure that a conducive policy environment is in place that supports the implementation of the *SIRIKA* digital applications and a digital health policy that supports electronic systems with paperless procedures for supply chain operations.

Supply Chain Improvement Process: 2015-2019

2015-17
11 Districts

2017-18
35 Districts

2018-19
98 Districts

An implementation research approach was adopted in Phase I for the initial 11 pilot districts. A before-and-after study design was employed to measure the effects of program interventions on key supply chain performance indicators using a mixed methods approach. The baseline assessment and impact evaluation reports can be accessed through the links below. Following a successful pilot implementation, BKKBN decided to scale up the interventions to the rest of the districts in the four provinces. The project provided technical assistance to support the provinces to roll out the interventions in other districts using provincial and district government budgets.

Baseline Assessment Report

Impact Evaluation Report

Intervention Focus Areas

The *My Choice* team collaborated with stakeholders to design a comprehensive package of data centric supply chain interventions that addressed critical gaps in the system. The package had four key interventions that were guided by three core themes – strengthening organizational capacity, fostering collaboration and accountability, and inculcating a culture of data use for continuous supply chain improvement. These intervention areas have strengthened key supply chain practices by improving data quality, promoting use of data for decision making, and strengthening the coordination and communication across levels and divisions of the supply chain. Most importantly, the results have shown the importance of investing in and strengthening the supply chain so that the service delivery points have a standardized, efficient and effective way of getting the products they need.

Inventory Management

Bottleneck: The use of service targets to make resupply decisions and lack of an appropriate inventory control system caused unequal distribution of contraceptives across resupply and service delivery points resulting in significant number of stock imbalances and stock outs.

Solution: The project designed and implemented a dynamic consumption-based inventory control system using fixed distribution schedules and standardized trigger points that facilitate emergency supplies or reallocations making the system more adaptable to changes in demand.

Logistics Recording and Reporting

Bottleneck: A strong supply chain system requires timely and good quality logistics data. BKKBN has a robust LMIS but poor record management at SDPs has compromised the quality of reports resulting in limited use of the data.

Solution: The project has built capacity of warehouse and SDP staff by equipping them with job aids and video tutorials with an aim to improve accuracy of records and reports.

Quality Improvement Teams

Bottleneck: Supply chain functions cut across multiple divisions and levels that operate in silos. Minimal communication and coordination across these divisions has resulted in inefficiencies within the supply chain system.

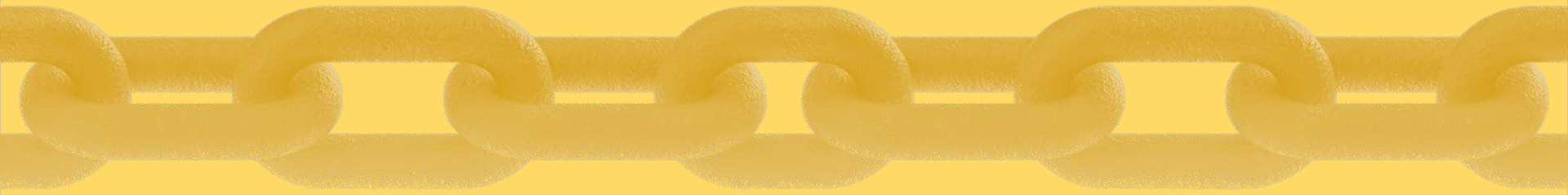
Solution: The Quality Improvement Team (QIT) model is a mechanism that fosters multi-division/level collaboration and inculcates a culture of data use for supply chain performance monitoring and improvement.

Mentorship and On-the-Job Training

Bottleneck: The FP program lacks a mechanism for routine monitoring and supervision. Additionally, high staff turnover makes capacity building challenging.

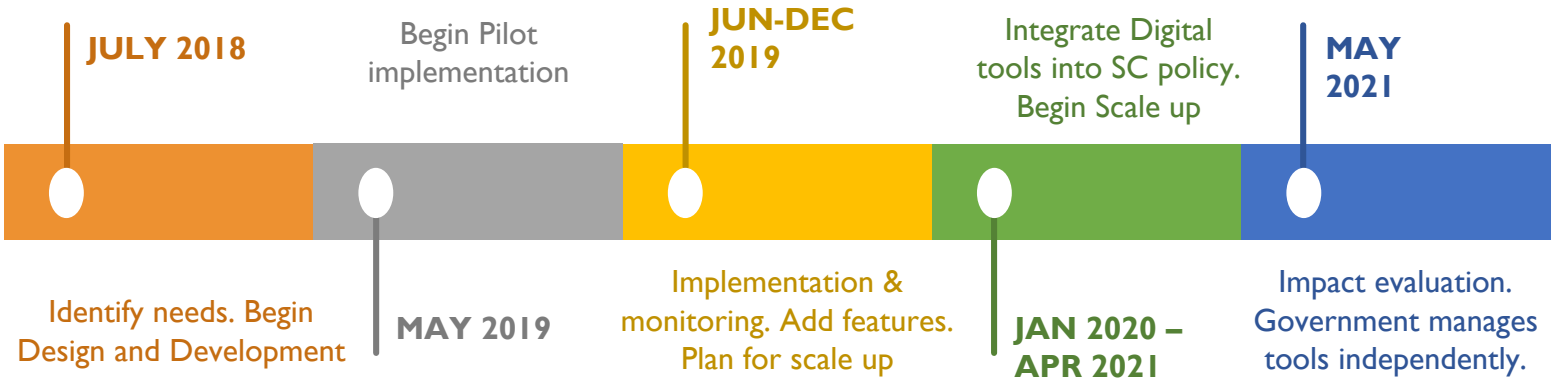
Solution: A mentorship and on the job training program has been introduced to build capacity of SDPs through coaching and feedback. Mentors also use a monitoring checklist that provides an additional dimension of data that can be used for decision making.

Summary Results Brief



Supply Chain Digitization

Supply Chain Digitization Roadmap: 2018-2021



During implementation of Phase 1, project staff identified other areas that needed improvement. It was observed that warehouse management practices were not optimal and there was a need and opportunity to digitize supply chain operations to make the system more efficient. This led to Phase 2 of the project, which began in 2019 and is the focus of this report. In this phase the project collaborated with BKKBN to develop and roll out a suite of digital tools including a mobile application for warehouse management and a web based application for distribution planning and monitoring. Following a successful pilot in one province across 24 districts, BKKBN decided to integrate the tools into their policies and roll out the applications nationwide across all 34 provinces and 512 districts.

Need for Digitization

Many digitization needs were identified during the first phase where the project team worked with province and district stakeholders to collectively identify bottlenecks and areas of inefficiencies. These needs can be categorized into four groups.

SCALABILITY

BKKBN needed a system that could support the large family planning distribution network. Initially the project worked in only 11 districts. Simple Excel-based tools were deployed that worked very well and served the purpose at the time. However, this model could not be sustained at scale and there was a need for a comprehensive digital system that could integrate and standardize supply chain operations across levels and regions.

EFFICIENCY

Data management at warehouses was not very efficient. Poor recordkeeping procedures and duplicative documentation requirements put a burden on warehouse managers, taking away their attention from other important tasks such as distribution and monitoring. This created a need to streamline processes as well as update some of the policies.

DATA QUALITY

Poor record keeping practices also created data quality issues, and as a result higher level managers never trusted the data being reported. In the first phase the project laid a strong emphasis on data use and there was a need to have good quality data on which to base decisions. A digital ecosystem could strengthen the quality of the data as well as provide real time visibility.

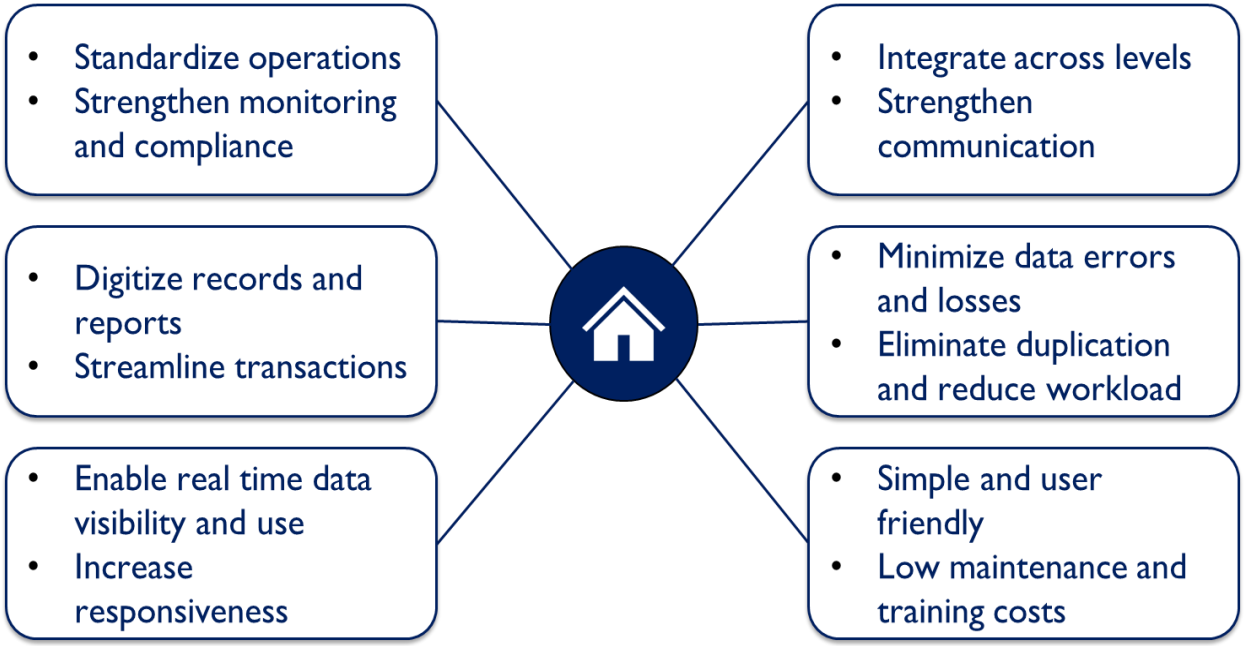
AUTOMATION

Many supply chain tasks were still done manually which negatively impacted other areas of data quality, efficiency and scalability. There was a strong need to leverage technology to increase automation and update the skills of workers.

Digital System Objectives

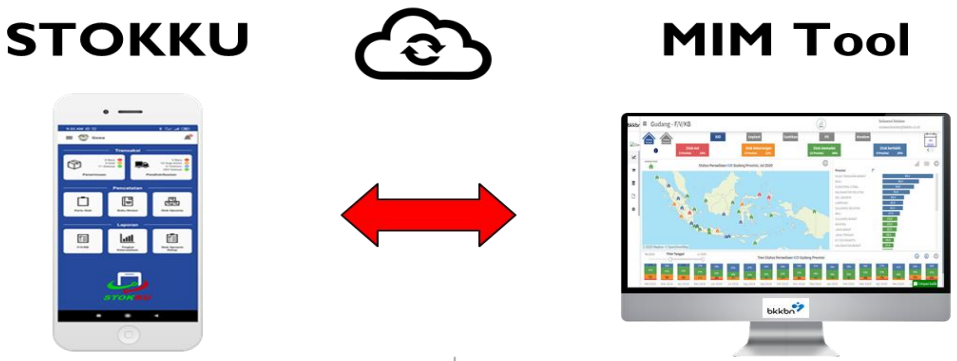
Once the needs were identified, a framework of objectives was developed that would inform the system design. The key objectives are listed below.

- Standardize operations and strengthen compliance with policies across all levels of the supply chain.
- Incorporate end to end integration and communication across levels.
- Automate and digitize documentation across all supply chain functions to reduce workload and increase efficiency.
- Ensure data is used and acted upon by building a system that minimizes data quality issues and eliminates duplication.
- Leverage digitization by enabling real-time data visibility and use to increase responsiveness and make the system more dynamic and resilient.
- Simple and user friendly design that is easy to adopt by the users and easy to administer and maintain by the government.



Digital System Architecture

The new digital supply chain system is known as *SIRIKA* or Sistem Informasi Rantai Pasok Alokon (Supply Chain Information System for Family Planning Commodities.) The system is comprised of two inter-connected applications that are used to support multiple supply chain tasks. *STOKKU* which means "my stock" in Indonesian is an android-based application used by warehouse staff to manage its operations. *STOKKU* is currently being used at central, province and district warehouses and by a few pilot health centers. *STOKKU* is complemented by the web-based *MIM* (inventory management and monitoring) tool used by program staff for distribution planning and monitoring key supply chain performance indicators. Both applications are interconnected and also receive and use information from BKKBN's facility-based F2 reporting system.



Warehouse Staff

Android based

Warehouse operations

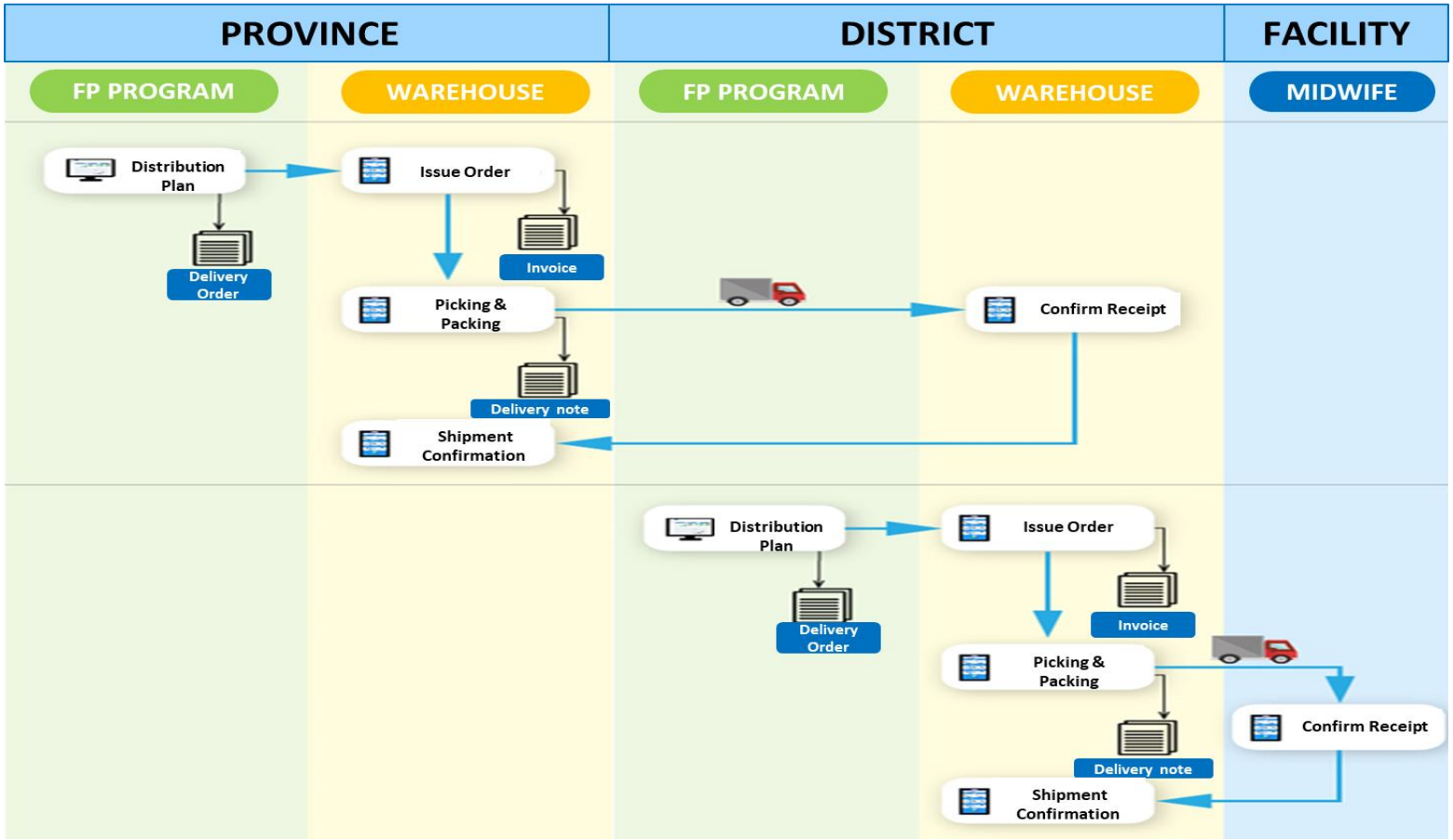
Program Staff

Web(browser) based

Distribution planning & monitoring KPIs

Digital System Operational Flow

The diagram below describes the operational flow for distribution of products at each level of the system. Provinces procure products directly from the supplier. The program division is responsible for creating distribution plans using the web-based MIM tool. A delivery order is then automatically sent to the warehouse that uses the *STOKKU* mobile application to invoice and prepare the goods for shipment to the lower level. *STOKKU* tracks the shipments as they go through the system which allows managers and warehouse staff to track distribution of products in real time. The flow is similar at each level of the system



STOKKU: A mobile application for inventory management

STOKKU is an android-based application available for download on the Google Play store. The app is in Indonesian and is used exclusively by the family planning program. The application digitizes all processes for receiving and distributing products, recording and reporting stock, and tracking deliveries and orders. A few key features are described below.

Transactions: Receipts and issues can be completed expediently with a few clicks. For receipts, the user will get an advance notification that the goods have been shipped from the higher level; when the goods are received, using a single click the user can confirm the products and quantities received. For issuing products, *STOKKU* automatically receives delivery orders from the web-based MIM Tool. When the warehouse manager is ready to begin the issue process, the system will automatically select the batch numbers based on first expiry, first out. Once approved, the delivery documents are automatically generated.

Digital records and reports: *STOKKU* uses transaction information to automatically generate digital stock cards, registers and monthly stock reports. This significantly reduces the burden on users as it eliminates the need to maintain stock records manually and minimizes the risk of data entry errors.

Real time data visibility: *STOKKU* enables warehouse staff and higher-level managers to view stock availability and track distributions in real time. This equips users to identify and resolve issues quickly, resulting in a more efficient and dynamic supply chain system.

Inter-level communication: Users between levels can communicate through the application, which automatically sends requests, alerts, and reminders to users when stock is short, there is oversupply, reports are due, etc. In addition, the application is linked to the Inventory Management and Monitoring (MIM) tool that enables the warehouse manager to receive delivery orders automatically.

MIM: A web-based application for inventory management & monitoring

The web-based Inventory Management and Monitoring (*MIM*) tool is used by program staff for distribution planning and monitoring key supply chain performance indicators. It has been developed based on the original Excel-based MIM tool that was developed during the first phase of the project. The *MIM tool* works in combination with *STOKKU;* the two applications complement each other. A few key features are described below.

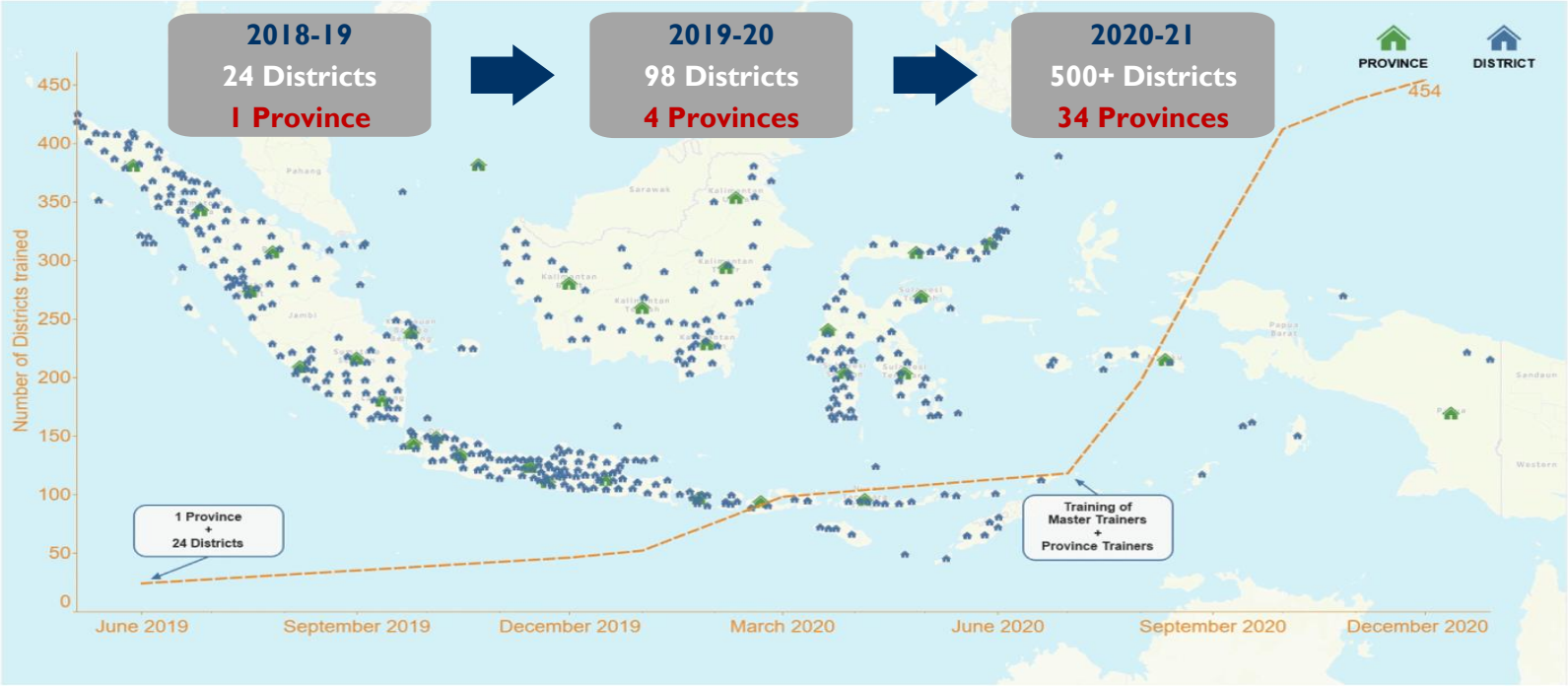
Distribution planning: The application automates the process of calculating recommended resupply quantities based on inventory control parameters using data from *STOKKU* and the BKKBN F2 facility reporting system. It makes distribution planning quick and easy, eliminating the need for manual calculation. Once the distribution order is created, it is automatically sent to *STOKKU* for further processing. Universal use of the *MIM Tool* facilitates standardization of inventory control and distribution procedures and can reduce stock imbalances and wastage in the system.

Distribution tracking: The *MIM tool* provides real time visibility on status of delivery orders and shipments. Program managers can track when distribution orders have been executed by the warehouse and when products are received by recipients. It is also used for monitoring and supervision by higher level managers who can view the current status across all districts in their region. Documents such as distribution orders and delivery notes are available in the *MIM Tool* for viewing and printing.

Real time performance monitoring: The *MIM Tool* includes a dashboard that provides real time visualizations on key performance indicators. Managers also have the ability to view warehouse records such as stock cards, if needed. Overall this tool provides great visibility into supply chain operations across the different levels and is appreciated by higher level managers for monitoring.

Supply Chain Digitization Implementation Timeline

The initial implementation of the digital tools began in June 2019 in one province comprising 24 districts. Over the course of the next year, implementation was expanded to districts in 3 other provinces. During this initial period, the development team worked on product improvements based on user feedback and strengthened the system to be ready for scale. Due to the Covid-19 pandemic, a few months were lost and the implementation strategy changed. E-learning modules were developed that could be used for self learning, complemented with live virtual sessions. In June 2020, a team of master trainers was trained that included staff from several divisions at BKKBN central. This was followed by training all 34 provinces and building their capacity to train their districts.



Supply Chain Digitization Implementation Timeline

Digital Transformation of the Supply Chain

The introduction of digital applications has provided the family planning supply chain program with a solid foundation to operate in the digital world. The supply chain system cuts across multiple decentralized levels, while functions within each level cut across multiple departments. Each of these levels and departments often work in silos, which curtails system responsiveness and efficiency. The digital tools break down these silos and integrate the supply chain across multi-level stakeholders, standardizing processes and increasing visibility and transparency in operations. This results in a supply chain that can anticipate and adapt to changes in demand, ensuring that people have consistent access to the contraceptives of their choice.

Transforming from paper to digital

Evaluation Methodology

Objectives

The introduction of digital applications has transformed supply chain operations within the family planning program from a rigid paper-based system to an integrated electronic system. This transformation has changed standard operating procedures and updated the skills of users. Following completion of the roll out to all provinces and districts in Indonesia, the project conducted an evaluation to measure implementation progress and the impact of the digital applications on supply chain operations and overall system performance.

The evaluation was conducted from May-July 2021 and mainly focused on the four project provinces – South Sulawesi, North Sumatra, Central Java and DKI Jakarta. The key objectives of the evaluation were to:

- Identify implementation successes, challenges and areas for improvement. Formulate lessons learned to inform future implementation.
- Obtain feedback from users on the applications to inform future product improvements.
- Measure impact of digital applications on supply chain operations and overall performance.
- Develop recommendations for BKKBN to continue and sustain the digital applications.

Evaluation Design

The evaluation was conducted using a combination of quantitative and qualitative methods as described below.

Qualitative Workshops

One day workshops were held in each of the four project provinces and included participants from BKKBN province and a sample of district users. The workshop had the following objectives.

- Identify successes and challenges to implementation of the digital tools in their districts and provinces.
- Identify mechanisms within districts and provinces to continue to support the implementation of the digital tools.
- Develop plans to address challenges identified and strengthen the implementation of the digital tools in each province and district.

Product Feedback Survey

An electronic survey was sent to all implementing province and district users across the country to learn about their experience using the *SIRIKA* supply chain digital applications and obtain feedback for future product improvements. Respondents were asked questions in the following areas

- Level of difficulty and satisfaction using the various product features
- Product features most liked and disliked
- Recommendations for improvement

Review of Application Data

The digital applications generate a wealth of data including transaction information and product availability status. The evaluation team reviewed data from when each province or district started using the applications up to May 2021. The data was used to measure implementation progress, determine trends in usage, and track overall supply chain performance.

Findings

Summary Findings

The below findings are based on survey results, workshop discussions and review of data generated from the digital applications. These findings represent the views of the users.

Digital Applications

- Users find the applications to be user friendly, easy to use and effective. Most users said that using the applications has benefited them, made their job easier and has reduced their workload allowing them to spend more time on other tasks.
- Users value the mobile and web-based platforms as it allows them to use and access information easily from anywhere.
- Users would like to have offline capability as they are not able to use the applications in low connectivity areas.

Inventory Management & Distribution

- The distribution process has become simplified as the MIM Tool automates the ressuply calculation and generates the distribution plans. It also allows users to easily schedule and track distributions making the process more efficient. 93% of respondents stated that their distribution tasks have become easier and simpler.
- Users appreciate that the *MIM Tool* seamlessly integrates with *STOKKU,* simplifying the communication between the program division and the warehouse.
- Overall stock out rates have reduced after users have started using the applications.

Data Visibility and Use

- The MIM Tool has transformed the way the supply chain is monitored making the process quicker and simpler. 96% of respondents said monitoring tasks have become easier.
- Users appreciate the real time visibility to track supply chain performance from anywhere. 98% of respondents believe that the *MIM Tool* dashboard has benefited them.

Organizational Capacity

- Most users do not have any difficulty learning and using the applications. Users in My Choice project provinces are more comfortable using the applications as they were trained earlier and have been using the applications for longer.
- Some users stated their preference for face-to-face training as compared to online trainings.
- Due to the pandemic, supportive supervision could not be performed routinely.
- Overall most districts are using the applications consistently, indicating quick adoption and capacity.

SIRIKA Feedback Survey Results

In May 2021, an electronic survey was sent to all implementing province and district users across the country to learn about their experience using the *SIRIKA* supply chain digital applications and obtain feedback for future product improvements. The survey received a total of 274 responses. 25 (74%) provinces and 179 (46%) districts were represented. 53% of respondents were from the four My Choice provinces of South Sulawesi, North Sumatra, Central Java and DKI Jakarta. Users were asked questions based on the type of product and features they use. 121(44%) respondents use both the *STOKKU* mobile application and the web-based *MIM Tool*, while 65(24%) respondents use only *STOKKU* and 73(27%) use only the *MIM Tool*.

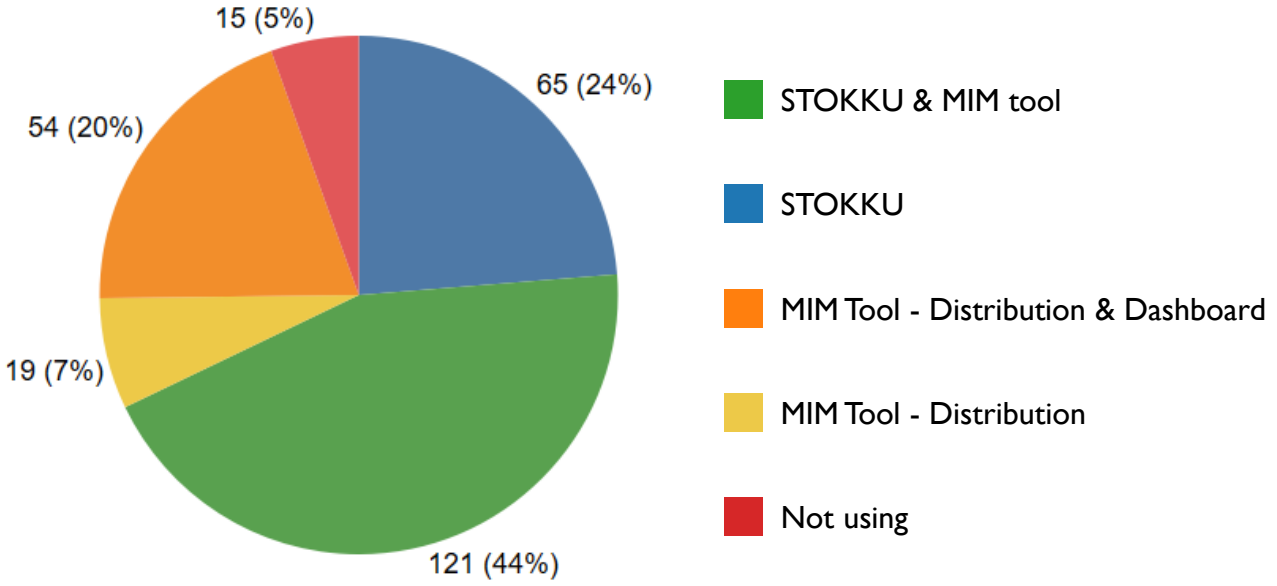
To view detailed results visit the *SIRIKA* survey results dashboard at the link below.

274
Respondents

25
Provinces

179
Districts

Type of Users

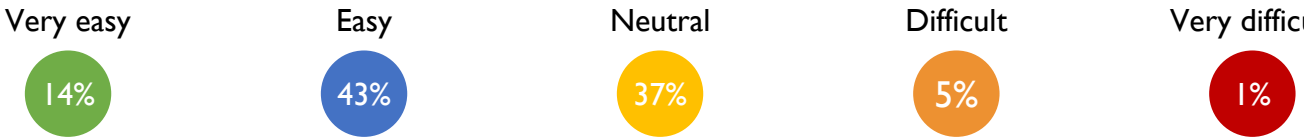


***SIRIKA* Survey Results Dashboard**

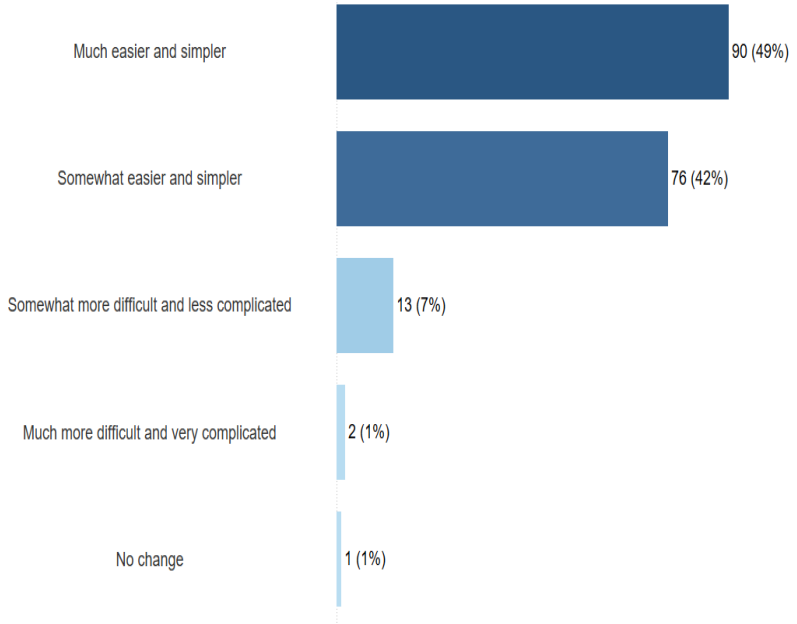
Survey Results: *STOKKU*

Two key system objectives as described earlier were to create a simple user friendly application and to eliminate duplication and reduce workload for the users. As can be seen in the charts below, 57% of respondents said that it was easy to use the application and 91% said that using *STOKKU* has made their tasks easier and simpler, while only 8% of respondents said that their tasks had become more difficult. 89% of respondents said that the time taken to perform their tasks has reduced as compared to before with 49% mentioning a significant reduction in time taken, allowing them more time to focus on other tasks.

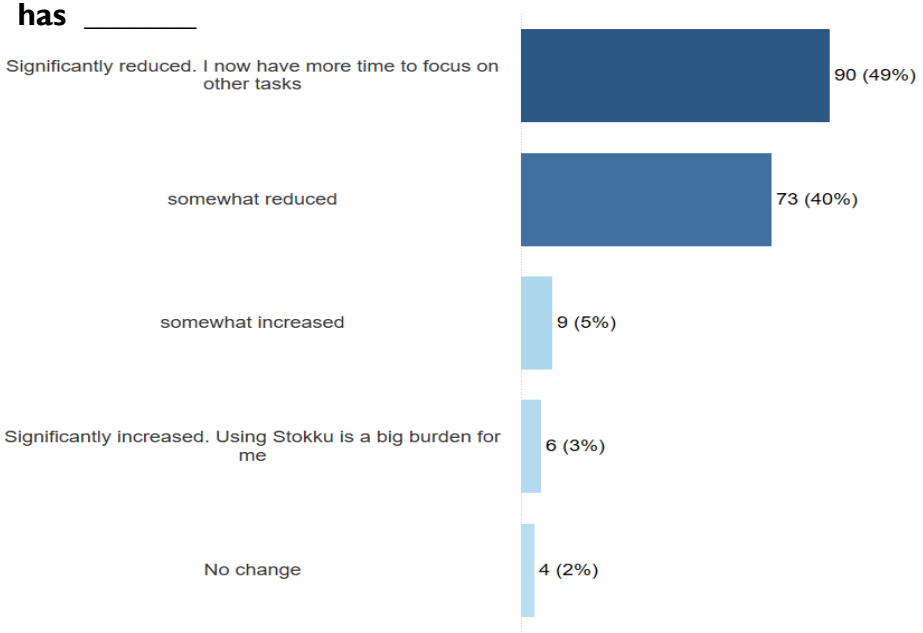
Please rate how easy or difficult it is to use the *STOKKU* mobile application



How has using *STOKKU* impacted the way you perform your tasks as compared to how you were doing it before? Performing my tasks has become _____



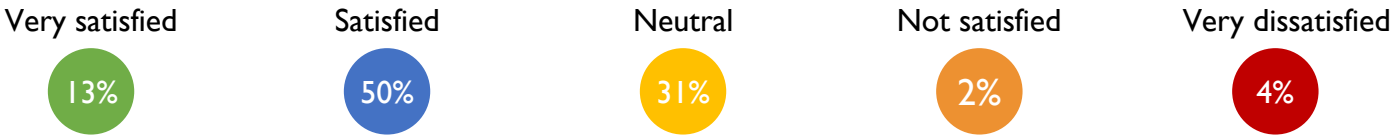
How has using *STOKKU* affected the amount of time it takes you to perform your tasks as compared to how long it took before? The amount of time I spend on tasks has _____



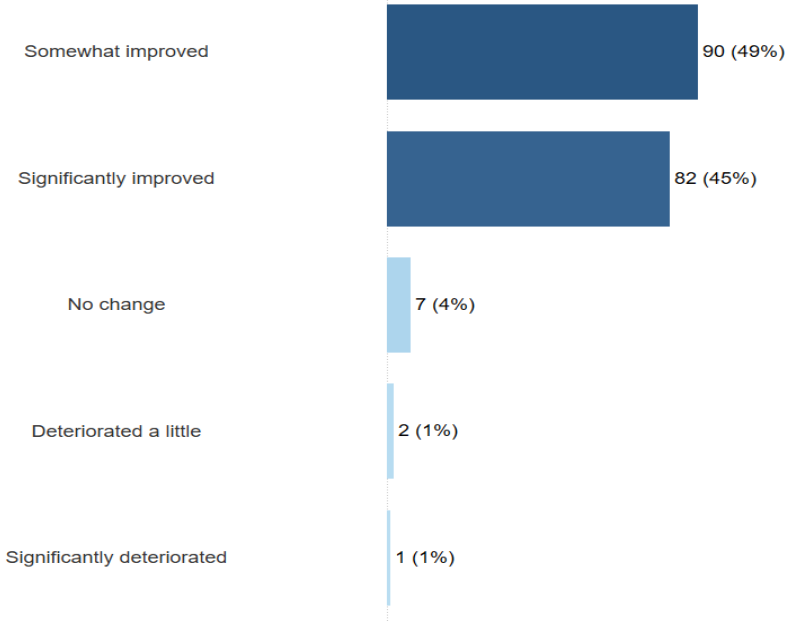
Survey Results: *STOKKU*

Digitization enables real time data visibility and use, increases responsiveness and makes the system more dynamic and resilient. Additionally, automation minimizes the risk of human error resulting in higher quality of information available to make decisions. 94% of respondents said that using *STOKKU* has improved data quality and visibility of records and reports while only 6% said that there was no improvement. Overall almost all respondents (96%) said that using *STOKKU* has benefited them and has improved the way commodities are managed, while only 6% of respondents said they were not satisfied with using *STOKKU*.

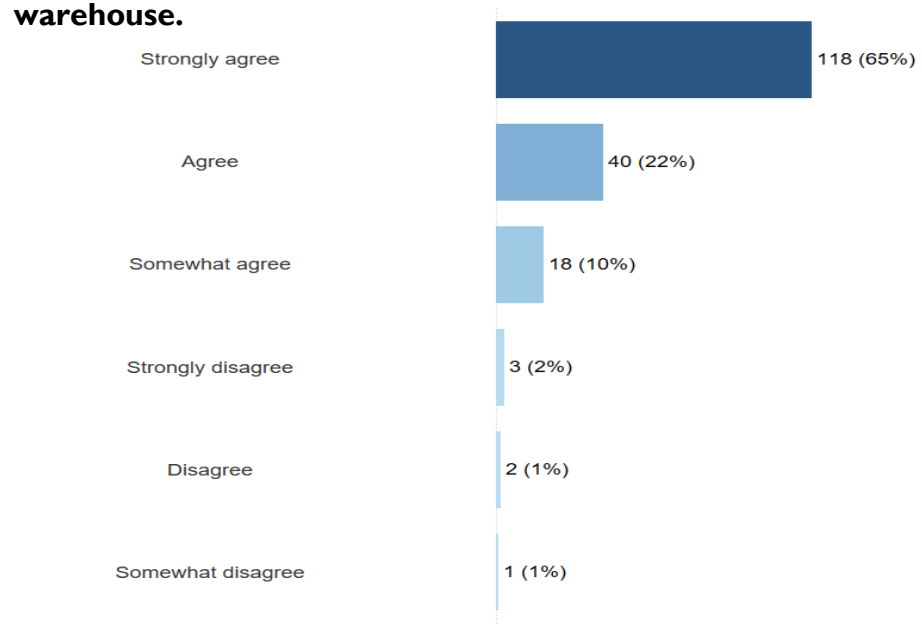
Please rate how satisfied you are with using the *STOKKU* mobile application



How has using *STOKKU* affected data quality and visibility of records and reports in your warehouse ? Data quality and visibility of records and reports has _____



Do you agree or disagree with this statement – "Overall using *STOKKU* has benefited me and has improved the way commodities are distributed and managed in my warehouse.



Survey Results: *STOKKU*

Respondents were asked to list the top three things they like and dislike about the *STOKKU* mobile application. A summary of responses is shown below. Users value ease of use, automation and the portability that the mobile platform provides. They appreciate the automatic integration with the MIM Tool and the ease of creating and tracking distributions. Users do not like the fact that *STOKKU* does not work offline and is only available on Android phones. Other issues mentioned by users have been addressed in subsequent versions of the application.

Things that users LIKE

- User friendly, easy to use and effective. Using STOKKU has made tasks easier, quicker and more accurate.
- Distribution documents such as invoices and delivery notes and stock records are automatically generated. No need for manual recording. Data is stored in the database, so no risk of losing files.
- Makes the work of a stock manager easier in distributing products and monitoring stock status.
- The mobile platform makes it easy to access information and conduct transactions from anywhere.
- *STOKKU* automatically transfers the distribution quantities from the *MIM Tool*. Automatic batch selection using FEFO eliminates the need for manual calculation or data entry.
- Conducting physical count each month has become much easier. Data checking is more effective and efficient.

Things that users DO NOT LIKE

- *STOKKU* only works with a internet connection. When the network is down the application cannot be accessed.
- Data entry errors while preparing delivery documents cannot be corrected. Incorrect transactions cannot be erased.
- Distribution quantities of non contraceptives need to be entered manually.
- Errors in document layout and printing. Documents only available in PDF format.
- No search feature available to search for transactions or products.
- *STOKKU* is only available on Android. Cannot be used on the iPhone.

Survey Results: *STOKKU*

Respondents were asked to provide their recommendations for future product improvements. A summary of recommendations is listed below. Additional recommendations can be viewed on the *SIRIKA* Survey Results Dashboard. Users in low network settings recommend offline functionality which is a complex feature to develop and needs to be carefully considered by BKKBN as it will affect real time data visibility. Users who use both STOKKU and the MIM Tool suggested all features to be in a single application rather than have two separate applications. This was considered during the design phase; it was difficult to consolidate the features of both applications into one single platform without compromising on portability that is available through the *STOKKU* mobile platform and the large screen size that is needed for the dashboard which requires a browser-based platform that is available in the *MIM Tool*. Currently, most information and documents such as distribution documents, stock records and reports generated in *STOKKU* are available for viewing in the *MIM Tool*. For the future, BKKBN can consider adding a feature that allows users to create transactions in the MIM Tool to accommodate *STOKKU* users who prefer to work on a larger screen on a browser-based platform.

User Recommendations

- Develop offline functionality so that transactions can be conducted and data can be viewed when connectivity is down.
- Add a search feature to eliminate the need to scroll and search one by one for transactions or products.
- Improve document layout and make viewing documents easier.
- Create a feature to allow editing of distribution documents so that errors can be corrected or quantities can be changed.
- Eliminate bugs and ensure server is running consistently.
- Provide face to face training, not online training so that users can better understand how to use the application.
- Integrate *STOKKU* and *MIM Tool* features into one application instead of having two applications.

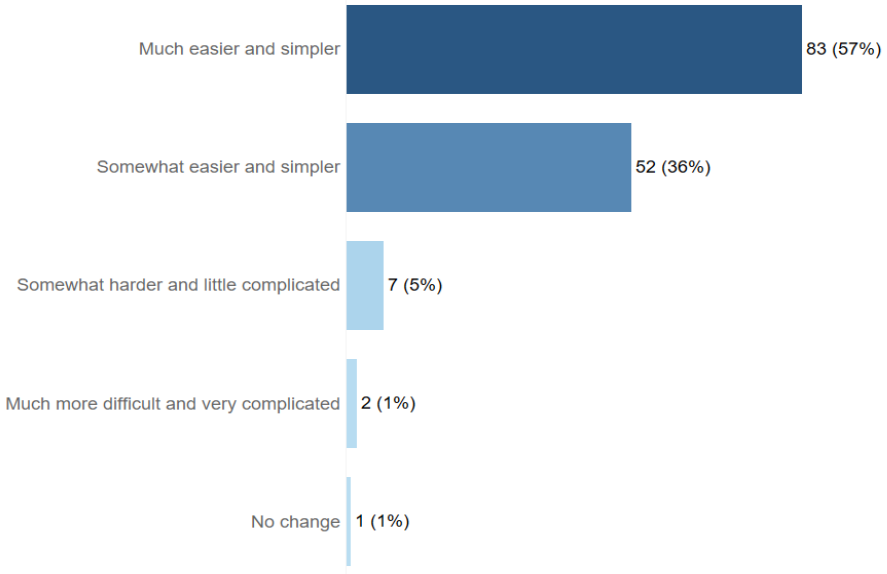
Survey Results: *MIM Tool Distribution*

One of the *MIM Tool's* primary features is that it automates the process of calculating quantities to be resupplied to the lower level based on inventory control parameters and the needs of the recipient. It also allows users to easily schedule and track distributions making the process more efficient. 93% of respondents stated that their distribution tasks have become easier and simpler. The *MIM Tool* has eliminated the need for manual calculations resulting in 91% of respondents stating that the amount of time taken to perform distribution tasks has reduced, allowing more time to focus on other tasks.

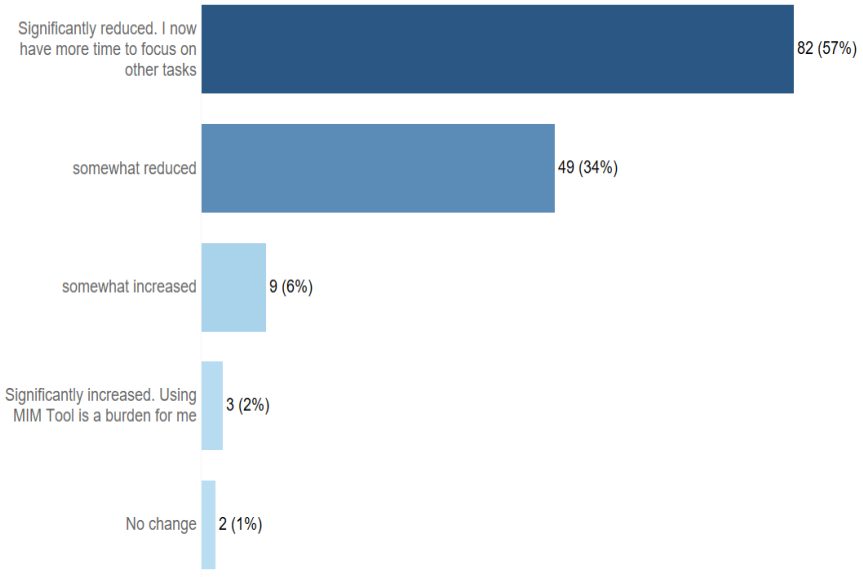
Please rate how easy or difficult it is to use the *MIM Tool* distribution features

Very easy	Easy	Neutral	Difficult	Very difficult
12%	47%	34%	6%	1%

How has using *the MIM Tool* impacted the way you perform your distribution tasks as compared to how you were doing it before? Performing my distribution tasks has become _____



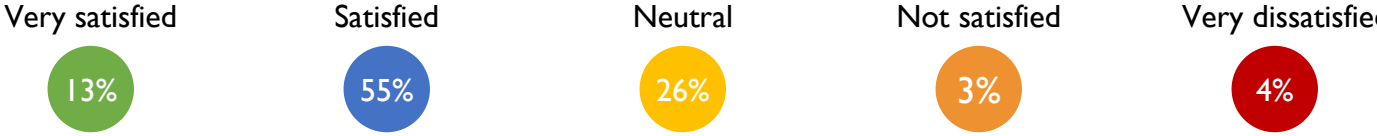
How has using *the MIM Tool* affected the amount of time it takes you to perform your distribution tasks as compared to how long it took before? The amount of time I spend on distribution tasks has



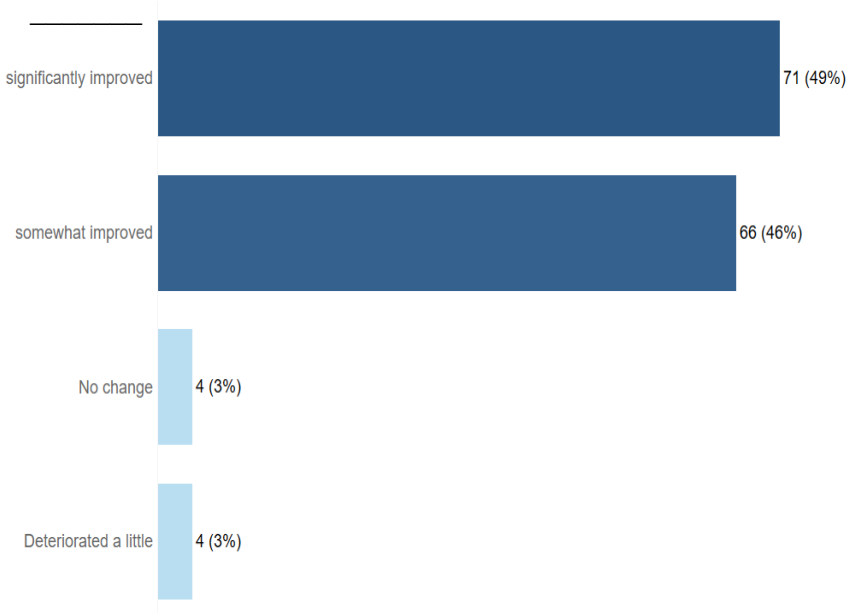
Survey Results: *MIM Tool Distribution*

The *MIM Tool* seamlessly integrates with *STOKKU,* simplifying the communication between the program division and the warehouse by eliminating the need for paper based delivery orders and transmitting the orders in real time to the warehouse for further processing. Additionally, visibility into the distribution status has been significantly enhanced with users able to view live status at any time. 94% of respondents said that using the *MIM Tool* has improved data quality and visibility of creating and tracking distributions. Overall 97% of respondents said that the *MIM Tool* has benefited them and improved the distribution process

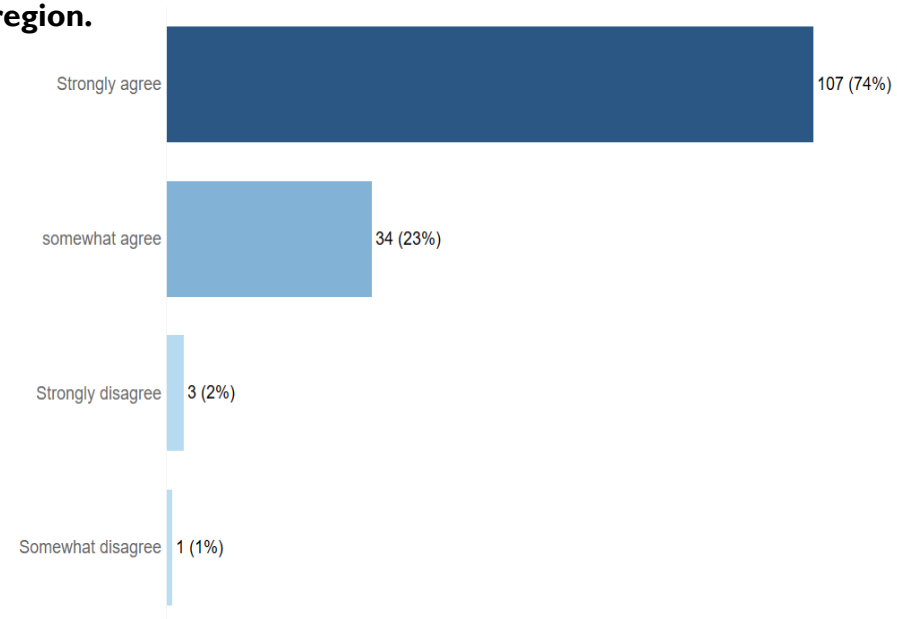
Please rate how satisfied you are with using the *MIM Tool* distribution features



How has using the *MIM Tool* affected data quality and visibility of creating & tracking distribution of products in your region ? Data quality and visibility of indicators has



Do you agree or disagree with this statement – "Overall using the *MIM Tool* has benefited me and has improved the way commodities are distributed and managed in my region.



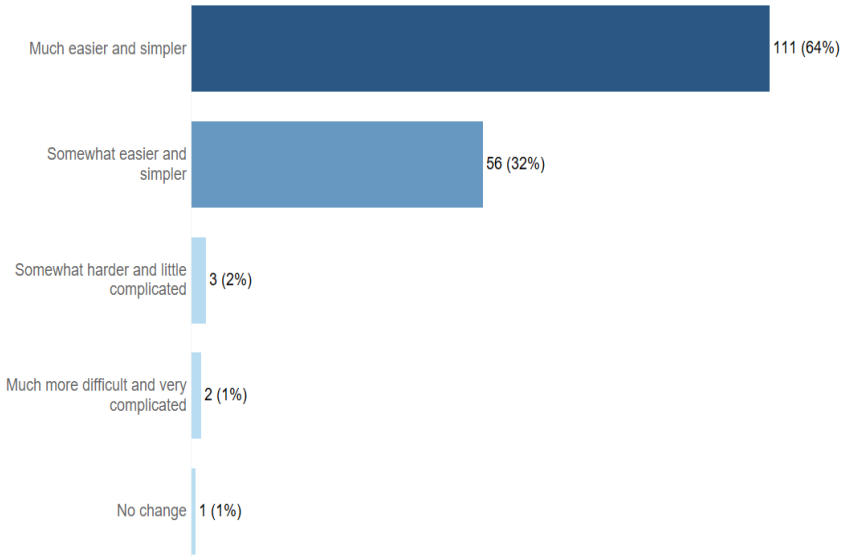
Survey Results: *MIM Tool Dashboard*

The MIM Tool dashboard provides real time visibility into each level of the supply chain. It links with the F2 facility-based reporting system and enables users to track stock availability up to the service delivery point level. It is designed to be user friendly with simple data visualizations allowing users to easily interpret the data. 62% of respondents said it was easy to use the dashboard while only 6% said it was difficult to use. The MIM Tool has transformed the way the supply chain is monitored making the process quicker and simpler. 96% of respondents said monitoring tasks have become easier while 93% said it takes less time to perform monitoring tasks, allowing them to spend more time on other tasks.

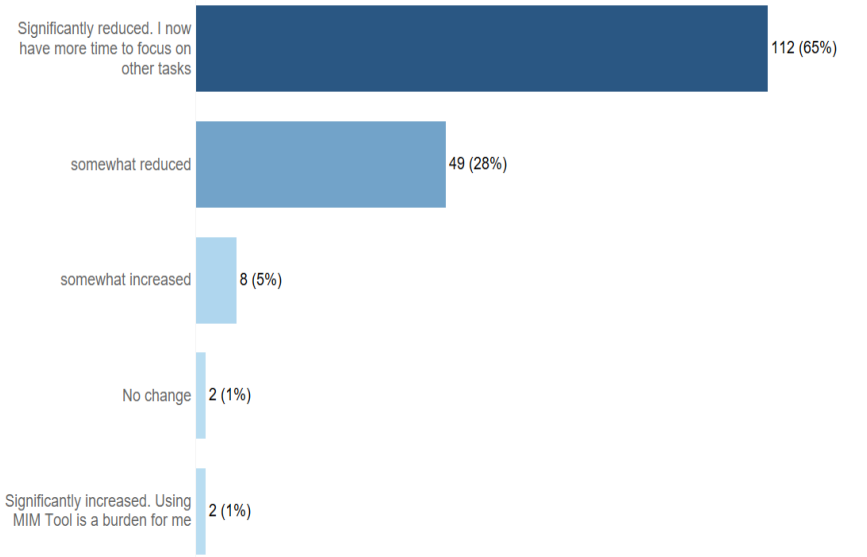
Please rate how easy or difficult it is to use the *MIM Tool* dashboard features

Very easy	Easy	Neutral	Difficult	Very difficult
12%	50%	32%	5%	1%

How has using *the MIM Tool* impacted the way you perform your supply chain performance monitoring tasks as compared to how you were doing it before? Performing my monitoring tasks has become _____



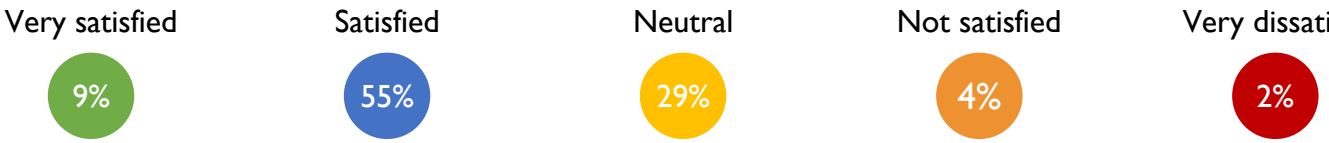
How has using *the MIM Tool* affected the amount of time it takes you to perform your supply chain monitoring tasks as compared to how long it took before? The amount of time I spend on monitoring tasks has _____



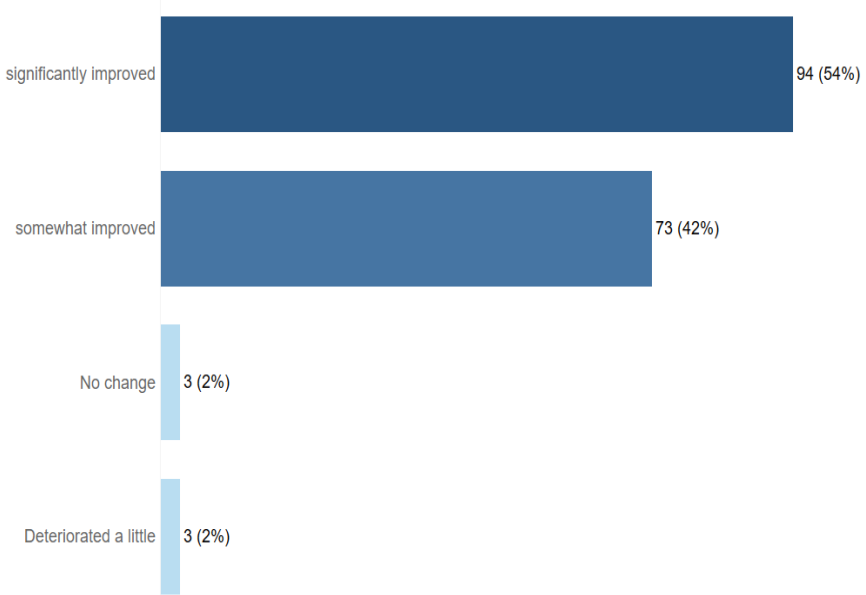
Survey Results: *MIM Tool Dashboard*

As the *MIM Tool* enhances data visibility, users are able to quickly identify data quality issues and take timely action. Users appreciate the real time visibility and that they can access and track supply chain performance from anywhere. 96% of respondents said that using the *MIM Tool* dashboard has improved quality and visibility of supply chain performance indicators. 98% of respondents believe that the *MIM Tool* dashboard has benefited them and has improved the way supply chain performance is monitored.

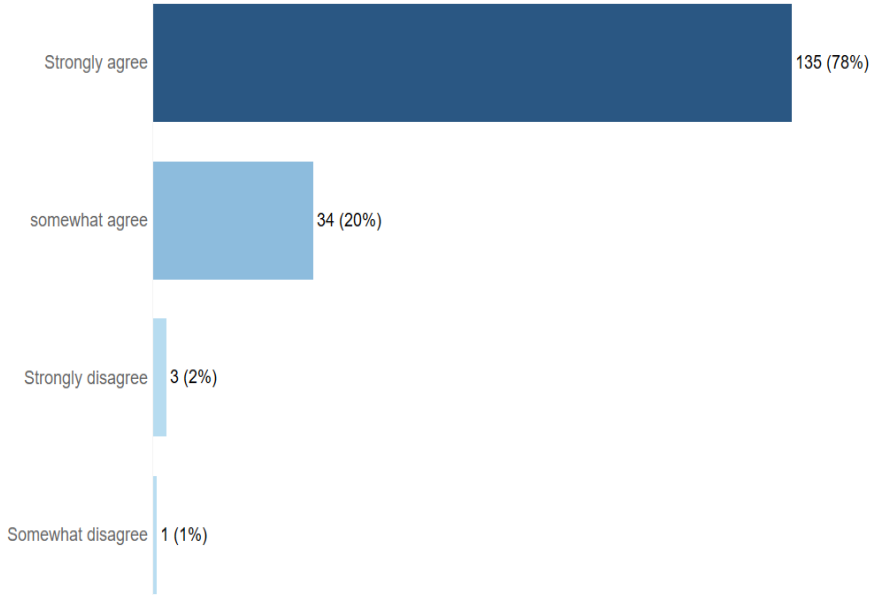
Please rate how satisfied you are with using the *MIM Tool* dashboard features



How has using the MIM Tool dashboard affected data quality and visibility of supply chain performance indicators in your region ? Data quality and visibility of supply chain performance indicators has _____



Do you agree or disagree with this statement – "Overall using the *MIM Tool* dashboard has benefited me and has improved the way supply chain performance is monitored in my region.



Survey Results: *MIM Tool*

Respondents were asked to list the top three things they like and dislike about the *MIM Tool*. A summary of responses is shown below. Users value the automation of creating distribution plans, scheduling distribution and using the dashboard to monitor stock availability in real time. Users find some features rigid as data entry errors cannot be corrected. This feedback has been addressed and subsequent versions of the *MIM Tool* have a feature that allows users to edit their distribution plans. Several users also voiced their concern about the distribution timeline every month. The *MIM Tool* is dependent on receiving data from the F2 facility reporting system which gets completed on the 15th of each month. It is not recommended to make distribution plans without the complete F2 report, however the *MIM Tool* now has a feature than enables users to make distribution plans earlier.

Things that users LIKE

- Creating distribution plans has become much easier and saves time. No manual calculations needed.
- By creating distribution groups, scheduling routine distributions has become much easier and more efficient.
- The *MIM Tool* is very helpful for systematically monitoring stock availability and consumption at warehouse and service delivery points. Data can be viewed in real time and facilitates quick decision making.
- The data visualizations are clear and easy to understand. Can see other districts performance which provides motivation to improve
- Viewing and tracking distribution status in real time
- The application is simple, effective and accurate.

Things that users DO NOT LIKE

- Distribution plans once created cannot be edited.
- Distribution plans cannot be made earlier in the month as the data is not available. Users have to wait till almost the 20th of the month to make the distribution plan in the *MIM Tool*. This delays the distribution to the facilities.
- The MIM Tool application is dependent on the internet so does not work well in low internet settings.
- The system recommended distribution quantities sometimes does not match the needs.
- Some districts do not appear in the map charts.

Survey Results: *MIM Tool*

Respondents were asked to provide their recommendations for future product improvements. A summary of recommendations is listed below. Additional recommendations can be viewed on the *SIRIKA* Survey Results Dashboard. Users in low network settings recommend offline functionality which is a complex feature to develop and needs to be carefully considered by BKKBN as it will affect real time data visibility. Users suggest better integration with the F2 facility reporting system so that the data can be accessed earlier in the month for the creation of distribution plans. The project team has raised this issue with BKKBN central and recommends that the data be available earlier in the month. Users also recommended the feature to be able to edit distribution plans once created. This has been addressed in subsequent versions of the application. The new version also considers batches that are expiring soon based on a user defined threshold.

User Recommendations

- Distribution plans should be made earlier in the month so that facilities can receive products sooner.
- Ability to edit or delete incorrect documents
- The *MIM Tool* application should synchronize better with the F2 facility reporting system.
- Product batches that will expire soon should not be included in the quantity to be distributed.
- Suggest having *MIM Tool* on Android.

Implementation Results

Prior to the evaluation workshops, the evaluation team reviewed the data generated from the applications to measure implementation progress and performance. A dashboard was created for users in each province and district to review implementation and performance trends since they started using the digital applications. During the evaluation workshops, participants reviewed the data to identify successes and challenges, and developed action plans to strengthen implementation and performance.

Below is a list of indicators that were measured:

Frequency and timeliness of routine distribution: Whether the province/district created their routine distribution plans for each month and if it was made on time (before the 25th of the month).

Routine distribution processing time: The number of days it takes to complete routine distribution to ALL facilities after the distribution plan was sent to the warehouse.

Stockout rates at Warehouses and Service Delivery Points (SDPs): Percentage of facilities that reported zero stock at the end of the reporting period. This was measured using monthly stock balance data from the BKKBN F/II/KB reports. Stock out rates were reviewed for the last two years at district warehouses and SDPs where staff have been trained and are using the applications. Average rates across all 5 contraceptive methods were analyzed pre and post training to measure the impact of the digital applications.

Adequate stock rates at Warehouses and Service Delivery Points (SDPs): Percentage of facilities that reported adequate* levels of stock at the end of the reporting period. This was measured using monthly stock balance data from the BKKBN F/V/KB reports.

** Province: Between 3 & 24 months of stock, District: Between 1.5 & 8 months of stock , SDP: Between 0.5 & 4 months of stock*

Implementation Results

Below are a few summary findings for each indicator measured.

Frequency and timeliness of routine distribution: This indicator measures whether the province or district created their routine distribution plans for each month and if it was made on time (before the 25th of the month). Timely distribution of products is key in ensuring the min max inventory control system works as designed, enabling health facilities to maintain adequate levels of stock at all times. It was observed that in the *My Choice* project provinces, most users were using the MIM Tool to create their distribution plans, while in other regions users were slower to adopt the tools consistently. Similarly, timeliness was also better in the My Choice project regions with over 80% of distribution plans made on time during the assessment period. Outside of the project regions, other provinces that are consistently using the digital tools to make their distribution plans on time are South Sumatra, Yogyakarta, East Kalimantan, Nusa Tenggara Barat, Bengkulu, Riau and Lampung.

Routine distribution processing time: This indicator measures the number of days it takes to complete routine distribution to all facilities after the distribution plan was sent to the warehouse. It measures the efficiency of warehouse operations as it relates to the picking, packing and distribution process. Looking at monthly trends, it was observed that lead times reduced over time as users got more familiar and used to the new system. While the process of picking, packing and distributing did not take time, it was noticed that often the delivery confirmation was not done by the district which resulted in the data showing longer lead times. Overall, the automation of delivery documents and the batch picking process has significantly reduced operation times and created efficiencies in warehouse operations as compared to the paper based systems used previously. In addition, automation of the First Expiry First Out (FEFO) principle ensures the risk of product expiry and wastage is minimized.

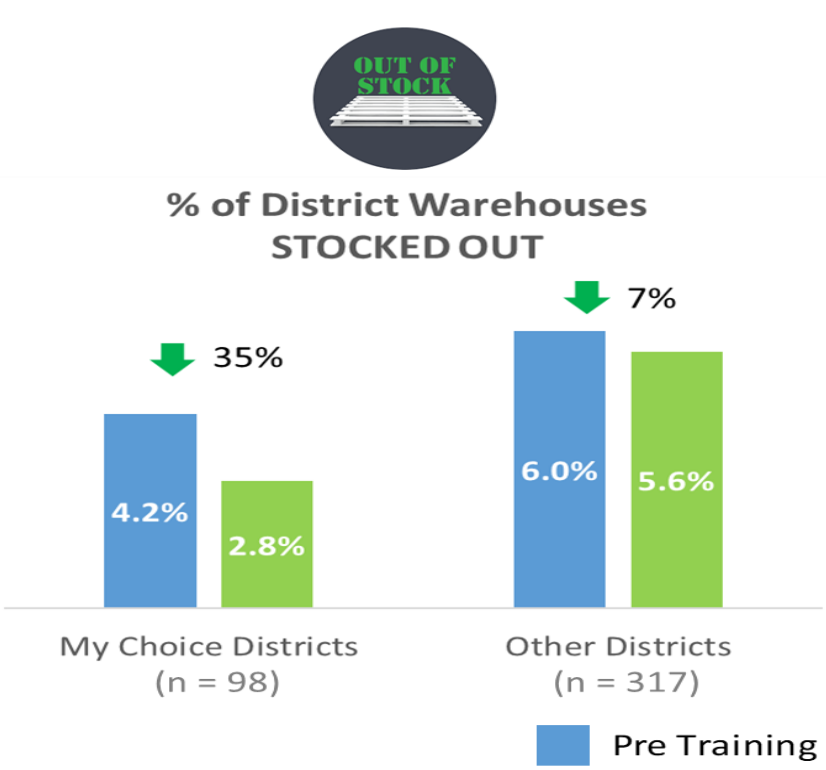
Stock availability at warehouses and service delivery points: The evaluation team analyzed stock availability data from warehouses and SDPs using monthly stock balance data from the BKKBN F/II/KB and F/V/KB reports. Overall, availability has improved post implementation of the digital tools as compared to the period prior to implementation. Additional results on availability can be seen on the next two pages.

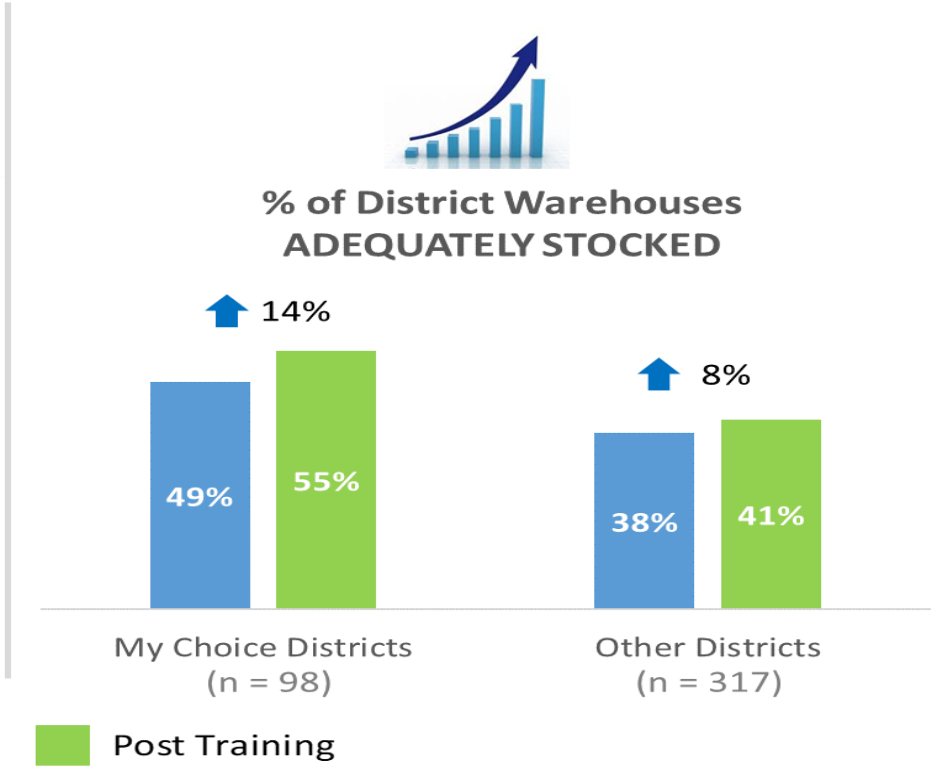
To view detailed results visit the SIRIKA Implementation Results Dashboard by clicking on the link below.

***SIRIKA* Implementation Results Dashboard**

Supply Chain Performance at District Warehouses

Supply chain performance was reviewed for the last two years at district warehouses where staff have been trained and are using the applications. Average rates across all 5 contraceptive methods were analyzed pre and post training to measure the impact of the digital applications. Stockout rates have decreased by 35% on average in My Choice districts, while other districts have shown an improvement of 7% post receiving the training. My Choice districts have shown a 14% improvement in the % of districts that maintain adequate stock post training, while other districts an 8% improvement has been observed. A larger impact is being seen in My Choice districts; one of the reasons is that they were trained earlier and have had more time to use the applications. Additionally they all have received training in the first phase of the project, so are more familiar with the systems.





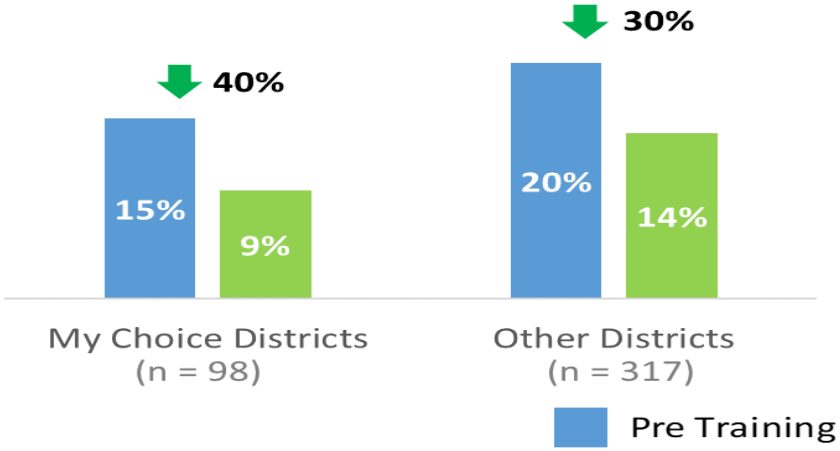
Pre Training Post Training

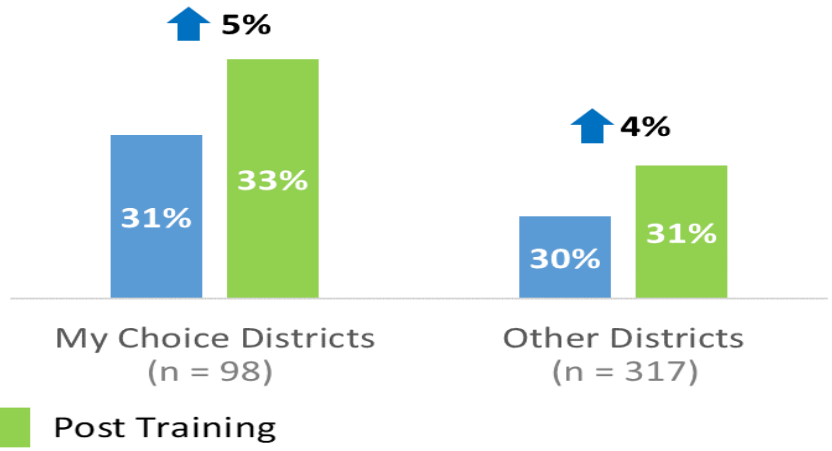
*My Choice Districts: Pre Training (Jan 19 – Apr 20). Post Training (May 20 – Dec 20)
*Other Districts: Pre Training (Jan 19 – Sep 20). Post Training (Oct 20 – Dec 20)

Data Source: BKKBN data

Supply Chain Performance at Service Delivery Points

Supply chain performance was also reviewed at the last mile. Results at SDPs are similar to the district warehouses. Stockout rates at SDPs have decreased by 40% on average in My Choice districts post training, while other districts have shown an improvement of 30% post receiving the training. On average My Choice districts have shown a 5% improvement in maintaining adequate stock levels post training, while other districts an 4% improvement has been observed. Again, SDPs in My Choice districts continue to have better outcomes than other districts for the same reason that they were trained earlier and have had more time to use the applications. Additionally they all have received training in the first phase of the project, so are more familiar with the systems.





Data Source: BKKBN data

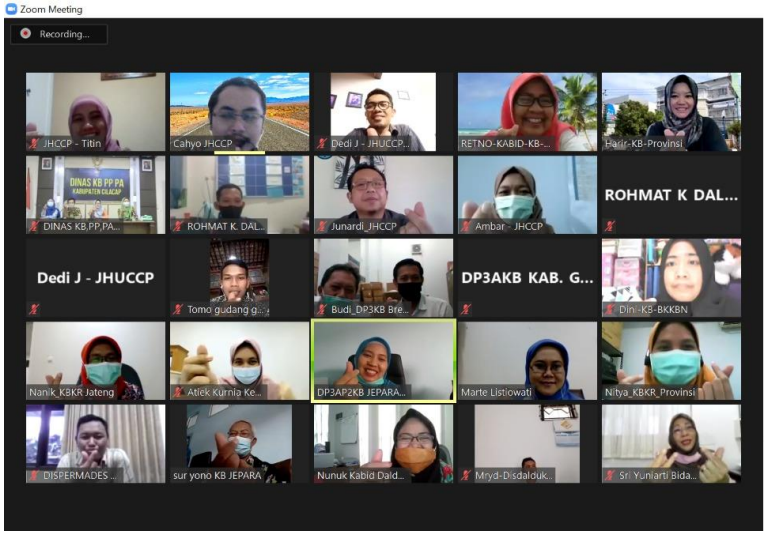
*My Choice Districts: Pre Training (Jan 19 – Apr 20). Post Training (May 20 – Dec 20)
*Other Districts: Pre Training (Jan 19 – Sep 20). Post Training (Oct 20 – Dec 20)

Workshop Results

During May-June 2021, two rounds of one day workshops were held in each of the four project provinces and included participants from BKKBN province and district users. The first round included one day virtual workshops with district and province staff in each of the four project provinces to identify factors contributing to the success and challenges to implementation of the digital applications. The second round included one day in-person workshops with BKKBN province staff in each of the four project provinces to summarize the successes and challenges and identify how provinces will continue to support implementation of digital tools.

The workshops had the following objectives;

- Identify factors which have contributed to successes and challenges in implementation of the digital tools.
- Describe user perceptions of and experience with the usability, features and functions of the digital tools and the impact of the digital tools on their work.
- Identify mechanisms within districts, provinces and central BKKBN to continue to support the implementation of the digital tools.
- Develop plans to address challenges identified and strengthen and sustain the implementation of the digital tools at district, province and central levels.
- Inform development of further digital tool improvements.



Workshop Results: Implementation Success factors

Workshop participants reviewed the survey results along with the implementation results to identify implementation success factors to strengthen and sustain the implementation of the digital applications and the overall performance of the supply. A summary of success factors is listed below.

- Strong **teamwork, coordination and collaboration** between province and district, divisions, with field officers, and with SDPs through WhatsApp Group
- **Strong support** from the Provincial FP Office (DPPAPP) and the Provincial Government
- **Collaboration** with the Indonesian Midwives Association (IBI) on contraceptives distribution enables rapid information sharing and coordination
- **Routine programmatic meeting** attended by all divisions with supply chain as one topic that is discussed for problem-solving. Routine QIT meetings
- **Commitment** to the distribution plan and to tasks to manage contraceptives
- **Good monitoring of contraceptive availability** through coordination between the province and the district/city.
- Proper and **routine supportive supervision** from the District/City to SDPs
- Adequate personnel with capacity to operate Stokku and MIM Tool
- The Warehouse Manager is appointed through a Decree to prevent sudden personnel transfer/substitution
- Availability of **facility and infrastructure** (computer, tablet, etc) for operating *SIRIKA*
- **Adequate funds** for distribution from special allocation fund (BOKB)
- **User-friendly application** such that no barriers are encountered during use
- The F2 Dashboard is used to monitor stock on hand and take actions in order to prevent stockout or overstock at SDPs

Workshop Results: Implementation Challenges

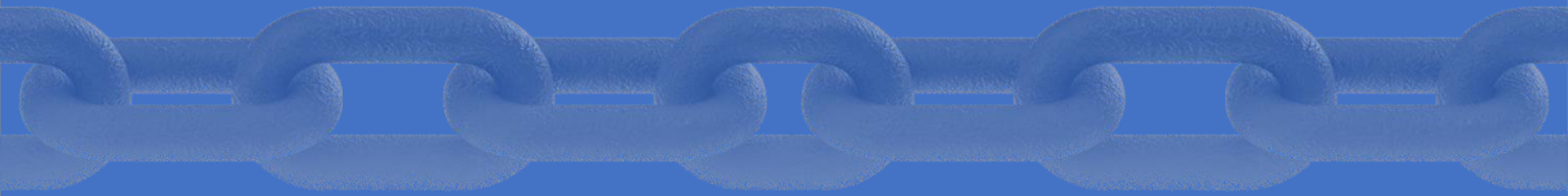
Workshop participants reviewed the survey results along with the implementation results to identify implementation challenges. A summary of challenges is listed below.

- **Coordination is not always optimal**; poor coordination between the District FP Office and the DHO with regards to R&R at the SDP level.
- **Challenges in contraceptive distribution** to private general practitioners and private midwives due to different operating hours; frequent non-routine distribution due to *ad hoc* activities; distribution sometimes has to wait for the availability of the Head of Division and Section
- **Delay** in emergency delivery from the Province as the Province waits for a request for emergency supply from the District FP Office.
- **Late confirmation** by staff/Warehouse Manager who operates Stokku; Need frequent reminders from the Chief of Distribution Planning Section.
- Quantity of contraceptives distributed from Sub-District Puskesmas to Puskesmas is sometimes less than what is stated in the distribution plan. Condom **stockout** at DHO
- The PUSH distribution system from the province **causes an overstock** in the Warehouse and SDPs; some products will expire this year and no budget is available for product destruction.
- **Mismatched of data**: price of non-contraceptive products, batch numbers
- **Lack of synchronization** between stock on hand in SIRIKA and actual field condition; Expired contraceptives are still recorded in F/V Reports; Data on F/2 dashboard do not illustrate actual data as it has been filtered by services in MIM Tool, but it is still included in the denominator for stockout calculation.
- **Limited facilities and infrastructure** to use SIRIKA (errors in computers, malfunctioning printer) and for supportive supervision (lack of tablet, personal mobile phone with small screen not)
- **Limited personnel, frequent personnel transfer** at districts and SDPs, competing tasks. No specific operator to monitor the performance dashboard. No back-up staff when staff out sick or on maternity leave.
- **Supportive supervision cannot be routinely performed** during the pandemic.
- **Poor internet connectivity** and frequent power outage.

Workshop Results: Action Plan

Workshop participants collectively reviewed the success factors and challenges and developed and prioritized actions to address the issues. A summary of actions is listed below.

- **Refresher training** about SIRIKA for current and new staffs to maintain the knowledge and receive updates on features in the application
- An **official letter** for the Districts/Cities as a basis to organize a refresher meeting for SDPs
- **Facility and infrastructure support** (laptop, computer, tablet, internet data package, honoraria for the operator of SIRIKA)
- A clear **mentorship model** from the Province to the District/City
- **Technical Guideline** from the Central BKKBN on implementation of SIRIKA
- New contraceptives should be recorded in the **BKKBN routine statistics** while waiting for SIGA
- A **policy** that mandates Sub-District Puskesmas to **immediately distribute products** to Puskesmas upon receipt
- Clear **policy on removal of expired products**, dissemination of the policy to SDPs
- Guidance to PKBs on **F/2 reporting to match it with the actual field condition**
- Careful calculation of contraceptives need (quantification)
- Additional Finance and State Asset Management staff to operate Stokku, the work procedure is yet to be discussed
- Optimize supply to the district level through routine distribution
- Identify the reasons for frequent emergency requests by districts/cities
- Inform the distribution schedule from the province to districts/cities
- Wi-fi facility can be provided in year 2022; provision for year 2021 requires another review
- Printer procurement request will be included in a budget revision proposal



Recommendations

Summary Recommendations

The family planning supply chain system has experienced a significant transformation in the last few years. A dynamic and resilient supply chain system is one that can adapt to the changing environment and mature over time. Below is a summary of recommendations proposed by the evaluation team to maintain the gains made as well as to ensure continuous improvement.

Digital Applications	• An immediate transition of the management of the applications from the project to BKKBN is recommended. This will ensure the sustainability of the system as the project support ends. The management of the applications is a sizeable responsibility and a more efficient and effective approach, would be for BKKBN to consider outsourcing the administration and management of the applications. • Continue making improvements to the applications based on users needs and feedback, particularly as it relates to new features and application reliability and stability. • Expand the roll out of Stokku at the SDP level. This will ensure end to end visibility and connectivity across the whole supply chain, enabling standardization of supply chain operations across the program.
Inventory Management & Distribution	• Continue implementing consistent use of the digital tools to ensure standardization of and compliance with inventory control procedures, including correctly determining resupply quantities, maintaining routine distribution schedules and minimizing lead times. • Ensure alignment of min max inventory control guidelines and policies with the processes followed in the digital applications. Adequately disseminate the policies to all users.
Data Visibility and Use	• Through consistent use of the digital applications, maintain compliance with good stock recordkeeping practices, ensuring high quality data are available at all times. • Ensure a proactive monitoring mechanism is in place that can leverage real-time data visibility available in the digital applications, enabling quick decision making and resolution of supply chain issues.
Organizational Capacity	• Ensure the SIRIKA applications are included in supply chain guidelines and policies. Appropriately disseminate these policies and support users with adequate infrastructure needed to use the applications. • Develop a digital health policy that supports electronic systems and paperless procedures for supply chain operations. This will eliminate duplication of effort for users. • Develop a helpdesk system that can support users for their supply chain and technology needs. Continue to maintain the e-learning mechanism to support existing and new users.

Recommendations: Digital Applications

Digitization of the family planning supply chain system has had a positive impact on overall supply chain performance as outlined in this report. Through the My Choice project, a solid foundation has been built and moving forward it will require a well coordinated effort by BKKBN and local government stakeholders to continue to maintain the system and strengthen it further. Below are a list of recommendations to continue maintaining and strengthening the digital applications.

Ownership and Sustainability: The administration and management of the digital applications is a critical responsibility that requires investment in financial and human resources. A large number of users are dependent on the applications for their daily tasks and any breakdown in application functionality can significantly disrupt supply chain operations and availability of commodities. An immediate transition of the management of the applications from the project to BKKBN is recommended. This will ensure the sustainability of the system as the project support ends. The management of the applications is a sizeable responsibility; a more efficient and effective approach would be for BKKBN to consider outsourcing the administration and management of the applications to a specialized vendor who can manage the daily maintenance tasks and bug fixes.

Product improvements: The *STOKKU* and *MIM Tool* applications are comprehensive applications that support all critical supply chain tasks. However, there is always scope for improvement with users needs changing over time. It is recommended to continue making improvements to the applications based on users needs and feedback. Additionally, as the number of users increase, it will be important to make improvements to the applications with regards to stability and reliability.

***STOKKU* at SDP Level:** The application has been successfully piloted at the SDP level in 8 districts. It is recommended to expand the roll out of *STOKKU* to additional SDPs. This will ensure end to end visibility and connectivity across the whole supply chain, enabling standardization of supply chain operations across the program and providing real time visibility up to the last mile.

Integration with SDP reporting system: The MIM Tool uses SDP level stock and consumption data to calculate resupply quantities and display key performance indicators on the dashboard. It is recommended that BKKBN build a seamless connection between the MIM Tool and the F/II/KB reporting system so that users have consistent access to the data in a timely manner.

Recommendations: Inventory Management & Distribution

Digitization of supply chain systems can have a positive impact on supply chain performance only if appropriate inventory management and distribution procedures are consistently implemented. Below are a list of recommendations that relate to inventory management and distribution.

Routine distribution resupply calculations: The *MIM Tool* has a sophisticated resupply calculator that automates the quantity to be supplied to the lower levels. The tool calculates the needs using pre-defined min max parameters and is based on the receivers reported stock on hand and average monthly consumption. It calculates the recommended quantity to be supplied based on the suppliers available stock and the needs of other facilities to be supplied. While users can manually modify the recommended quantities while making the distribution plans, it is recommended that users not modify the recommended quantities except in certain cases when the reported data from the lower level are known to be not accurate. Consistent use of the recommended quantities by all users will normalize stock levels over time and ensure all warehouses and SDPs maintain adequate levels of stock at all times. This will also minimize the need for emergency orders and reallocations, resulting in a more efficient system. It is recommended to continue implementing consistent use of the digital tools, ensuring standardization of and compliance with inventory control procedures, including correctly determining resupply quantities.

Distribution schedule: To ensure the system runs effectively it is critical that routine distribution of commodities is implemented consistently and on time. Any change or pause in distribution in a particular month will disrupt the availability of commodities at the lower level. It is recommended that all users maintain routine distribution schedules and minimize lead times so that the lower levels can receive products in a timely manner. The MIM Tool provides real time tracking of each transaction and it is recommended that supply chain managers proactively monitor the status of distribution in their region.

Inventory Control Policy: The digital applications have transformed the way inventory control procedures are implemented. It is recommended to ensure alignment of min max inventory control guidelines and policies with the processes and parameters followed in the digital applications by adequately disseminating the policies to all users and having a monitoring mechanism in place to monitor compliance.

Recommendations: Data Visibility, Quality and Use

The introduction of the digital applications has greatly enhanced the visibility of data across all levels of the supply chain. Transactions are tracked in real time allowing users to monitor stock availability and distribution status as it happens. Below are recommendations related to data visibility, quality and use.

Data Visibility: The digital applications provide end to end visibility of the supply chain and has significantly enhanced the level of detail available. Real time stock information including details on batch and expiry dates, distribution status and delivery confirmations are some examples of information that was previously not available. This information can now be seen on the *MIM TOOL* and *STOKKU*. In addition users can receive email and push notifications based on the preferences they set. It is recommended that data visibility and accessibility continue to be enhanced so that users can be empowered to address issues and take action quickly. Dissemination of routine performance reports and providing wide access to the dashboard can encourage more users to view and use the information for decision making.

Data Quality: The stock record is the starting point for the data that goes upstream. It is very important for higher level managers to monitor stock availability, make resupply decisions and conduct other supply chain tasks. In order for it to be useful, it is critical that the data accurately represent the situation at each warehouse or SDP. It is recommended that storekeepers consistently use the digital applications to record transactions and maintain compliance with good stock recordkeeping practices to ensure that high quality of data are available at all times.

Data Use: The digital supply chain system needs to be well supported by a culture of data use for decision making, resulting in a more dynamic and resilient supply chain. It is recommended that a proactive monitoring mechanism be institutionalized that can leverage real time data visibility available in the digital applications. This will enable quick decision making and resolution of supply chain issues. Additionally, users should monitor the data routinely to identify data quality discrepancies if any and provide feedback to the lower levels for improvement. In the first phase of the project, a quality improvement team (QIT) approach was implemented in the project provinces and districts. levels. The purpose of the QITs was to improve the use of logistics data for supply chain decision making, such as better distribution planning, monitoring and performance management, as a routine practice. QITs were designed to meet monthly and have a common goal and a shared responsibility to review data, identify problems and work together to find solutions. It is recommended that the QIT approach be expanded to the central level as well as other provinces and districts in Indonesia.

Recommendations: Organizational Capacity

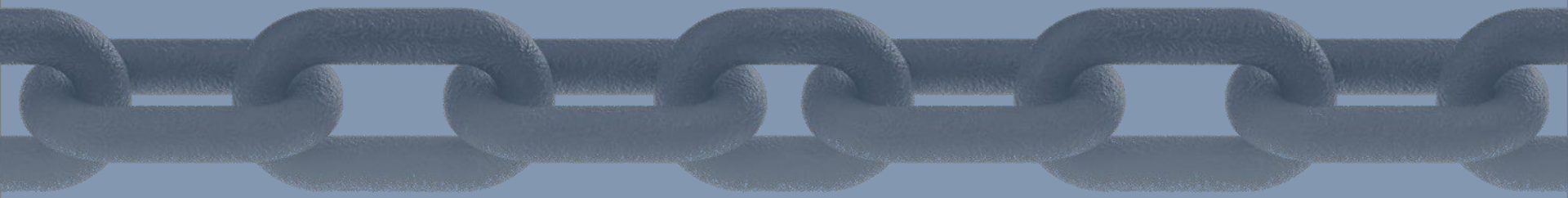
The success of the digital supply chain system is dependent on various factors, including the capacity of the users, how consistently it is implemented and the policy environment that supports it. Users must be equipped with appropriate knowledge, skills and infrastructure to be able to use the applications optimally. Below are the recommendations related to organizational capacity.

Supply Chain Policy: A conducive policy environment is an important driver of successful implementation. Ensure that the SIRIKA applications are included in supply chain guidelines and policies. Appropriately disseminate these policies and support users with adequate infrastructure needed to use the applications.

Digital Health Policy: Develop a digital health policy that supports electronic systems and paperless procedures for supply chain operations. This will eliminate duplication of effort for users.

User Support: Develop a helpdesk system that can support users for their supply chain and technology needs. Continue to maintain the e-learning mechanism to support existing and new users. Institutionalize a supportive supervision mechanism that can provide users with mentorship and on the job training. Ensure that when there are staffing changes an appropriate handover mechanism is in place so that new staff are well equipped to perform their tasks and there is no disruption in operations.

Roles and Responsibilities: Roles and responsibilities for both administrators and users of the system must be clearly identified and documented. Transparency and accountability in operations must be prioritized. The project has worked with BKKBN to map out a list of comprehensive roles and responsibilities in as it relates to the maintenance, management and implementation of the supply chain digital applications. The roles have been documented in detail and it is recommended that these be implemented and institutionalized immediately. As supply chain functions cut across multiple directorates within the organization, it will be important to have strong leadership and coordination across the various divisions.



Conclusion and Way Forward

Conclusion and Way Forward

The My Choice project through its partnership with BKKBN has made significant gains over the last seven years. The supply chain system has evolved and the project has successfully demonstrated the positive impact of various supply chain strengthening interventions. As this partnership concludes, it will be important for BKKBN and local governments to continue investing in its supply chain to protect the gains made and strive for continuous improvement. The success of the FP program is largely dependent on the performance of its supply chain as it supports Indonesia's large network of over 17,000 family planning clinics.

The benefits of digitizing the supply chain system have been clearly demonstrated. Supply chain operational performance has significantly improved, specifically in the areas of quality, productivity and cost. The supply chain workforce has learned new skills and automation has significantly reduced workload allowing more time for other tasks. These improvements in operational performance have resulted in reduced stock outs and improved contraceptive availability, enabling warehouses and SDPs to better fulfill the needs of their clients. Technology and automation on their own cannot guarantee improved performance and must be supported by a well trained and motivated workforce, standard operating procedures and a conducive policy environment.

End to end digitization of public health commodity supply chains on a countrywide scale in low to middle-income countries (LMICs) is a fairly recent phenomenon and has only been implemented in a few countries. Furthermore, the implementation in most of these countries is limited to a reporting system and not a comprehensive transactional system. In the Indonesian context, the FP program is the first to comprehensively digitize its supply chain systems across all levels of the supply chain in all regions. The scale up of the digital applications to all provinces and districts in Indonesia in less than a year is a significant achievement that BKKBN and the My Choice project can be extremely proud of. The new digital supply chain system can be a model used by other health programs in Indonesia and elsewhere as they explore leveraging digital technology to strengthen their supply chains. Additionally, the learnings from this project can be useful for donors, implementing partners and governments to inform future digital supply chain strategies and investments.

Appendix

List of Resources

Additional findings and details are available through the various download links located in various sections of the report. A summary of these resources is listed below.

Description	Link
My Choice Supply Chain Baseline Assessment Report	https://bit.ly/PilihankuBaselineReport
My Choice Supply Chain Impact Evaluation Report	https://bit.ly/PilihankuImpactEvaluation
My Choice Supply Chain Summary Results Brief	https://bit.ly/PilihankuSummaryResult
Supply Chain Digitization Implementation Timeline	https://bit.ly/SirikaImplementation
Supply Chain Digitization Evaluation Survey Tool	https://bit.ly/SirikaEvaluationSurvey
SIRIKA Survey Results Dashboard	https://bit.ly/SirikaSurveyResult
SIRIKA Implementation Results Dashboard	https://bit.ly/SirikaImplementationResult

To learn more visit us at

www.jsi.com/mychoiceindonesia

JSI RESEARCH & TRAINING INSTITUTE, INC.

Email: jsi.idfp@gmail.com
Website: www.jsi.com/mychoiceindonesia