

August 2023

Otomasi Penyampaian Informasi Pesan Singkat (chat) dengan RPA + WhatsApp Blast

09.00 



Aang Dyaksa

Information Systems & Technology Division

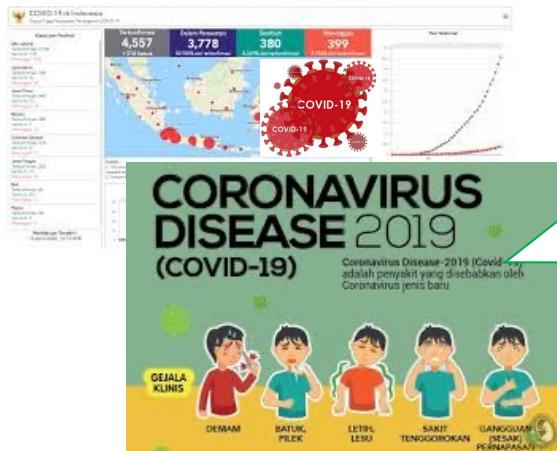
PT.TOYOTA MOTOR MANUFACTURING INDONESIA

09.00 

1. Project Idea Creation



Background situation:



During COVID-19 situation communication to employee become critical ("informasi protocol Kesehatan", vaksin, dll.)

Tools available:



Media to communicate information:
a. email : **limited to IDL employee**
b. SMS : **limited information to deliver**

Project Goals:



1 Broadcast information to ALL Employee in TMMIN



2 Broadcast information with multimedia message: Image, Video, PDF, Text

As "Information & Technology" Division, we should **contribute** to bring **solution** for this situation!

(@COVID-19 IS Special Task Force Meeting)



Agung
(DpH)

2.1. Project Target (Scope)



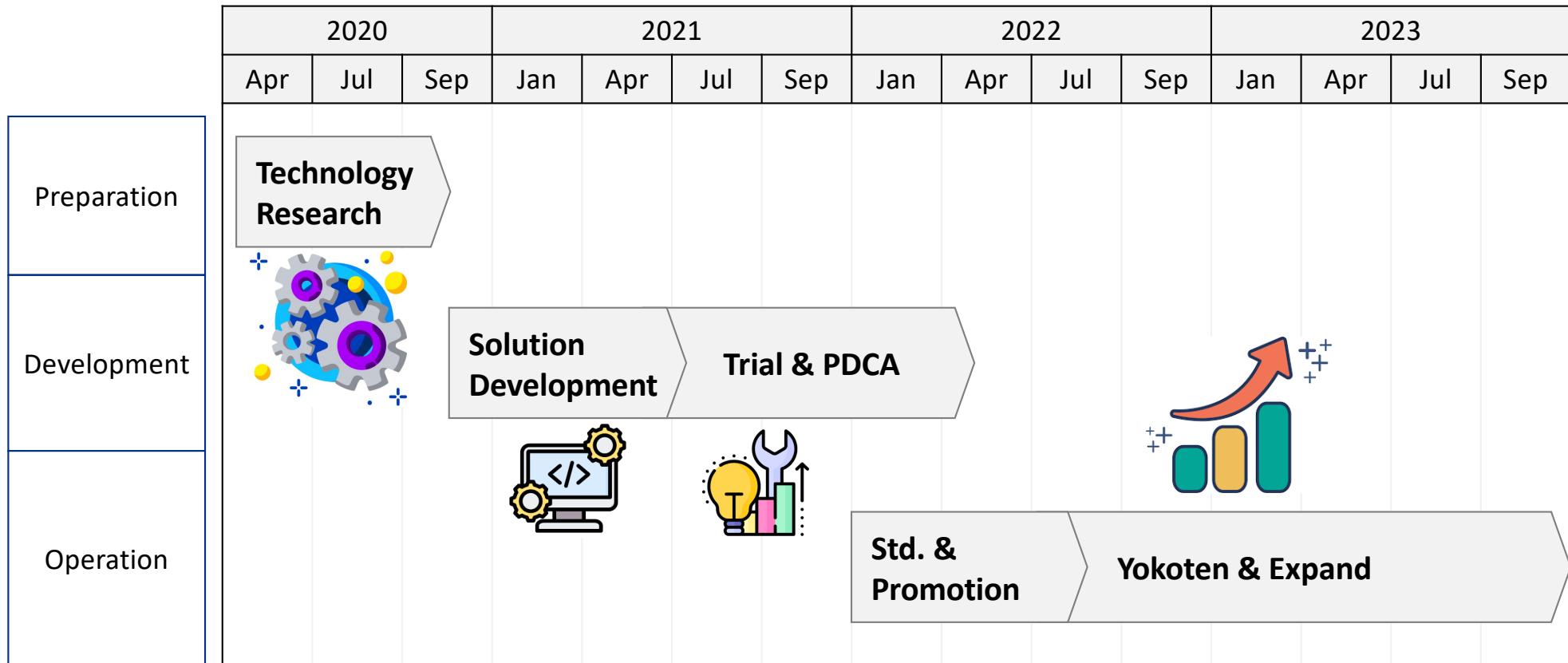
Current Situation

	Coverage	Media	Cost
Email Blast 	28% Limited to IDL (have email account)	Support Multimedia 	<No cost>
SMS Blast 	100% All employee	Only Text 160 character	IDR 3,01 Mio / blast Cost Rp. 650/sms

- Target:**
- Solution to deliver information to all TMMIN employee, support all media (file, image, text) and with less cost

	Coverage	Media	Cost
WhatsApp 	100% All employee	Support Multimedia 	<No cost>

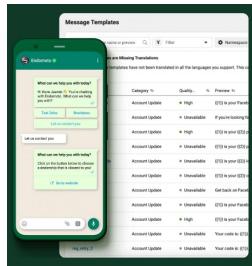
3. Activity Timeline



4. Project Idea & Technology Selection



WhatsApp Business



3rd Party



Idea: Stocks Trading Robot

Robot to click on web-based application from the input



WhatsApp Web + RPA



RPA



Capability	<ul style="list-style-type: none"> • Sending to All Employee • Multimedia message 	<ul style="list-style-type: none"> • Sending to All Employee • Multimedia message 	<ul style="list-style-type: none"> • Sending to All Employee • Multimedia message
Pricing Cost	<ul style="list-style-type: none"> • 60 Mio / number / year • 500 / chat 	<ul style="list-style-type: none"> • 500 / chat (blast) • 2500 / conversation 	<ul style="list-style-type: none"> • 1.2 Mio / number / year (internet quota)
Effort Development	<p>2 – 4 months</p> <p>Require programming (Python, Java)</p>	<p>1 – 3 months</p> <p>Require programming (Python, Java, C#)</p>	<p>1 months</p> <p>Not required programming -> internal development</p>
			Selected as solution

4.1 Focus Activities

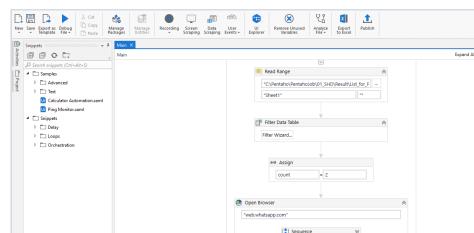


Technology Research



- Selecting technology (RPA & WA)

Solution Development & Test



- RPA UiPath development (internal development)
- Server preparation

Trial & PDCA



- Solution to broadcast message (same message)
- Send personalized msg.

Standardization

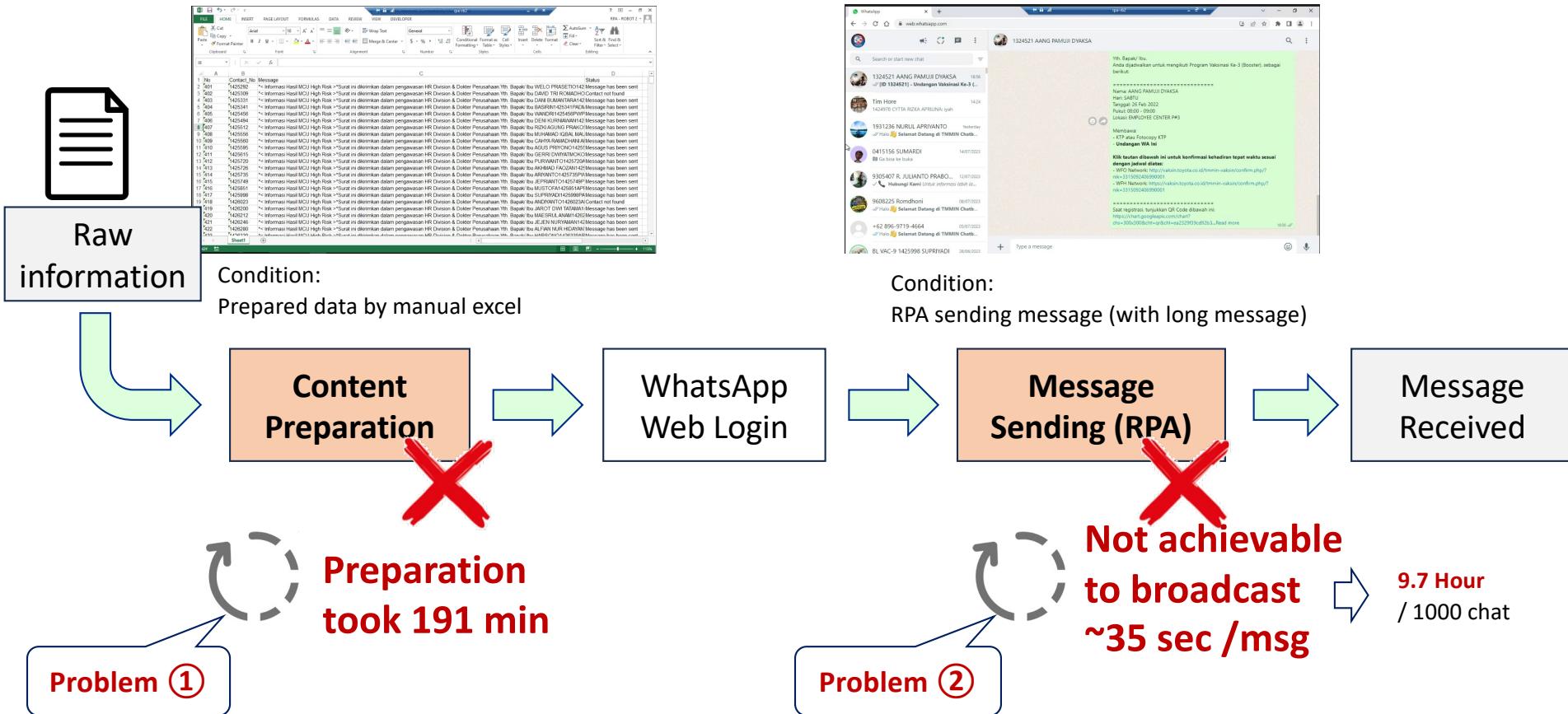


- Risk Assessment
 - Change Management
 - Standardization
- Risk mitigated
 - Communication activity
 - Standard Operation

Summary	<p>RPA</p> <p>Whatsapp Web</p> <ul style="list-style-type: none"> • Selecting technology (RPA & WA) 	<p>• RPA UiPath development (internal development)</p> <p>• Server preparation</p>	<p>• Solution to broadcast message (same message)</p> <p>• Send personalized msg.</p>	<p>• Risk Assessment</p> <p>• Change Management</p> <p>• Standardization</p>
Target	<ul style="list-style-type: none"> • Mandatory Feature • Cost Effective 	<ul style="list-style-type: none"> • Infrastructure ready • Solution running well & fully tested 	<ul style="list-style-type: none"> • Ensure performance • Productivity on operation 	<ul style="list-style-type: none"> • Risk mitigated • Communication activity • Standard Operation

Focus point on SS

5. Problem Findings (Trial & PDCA)



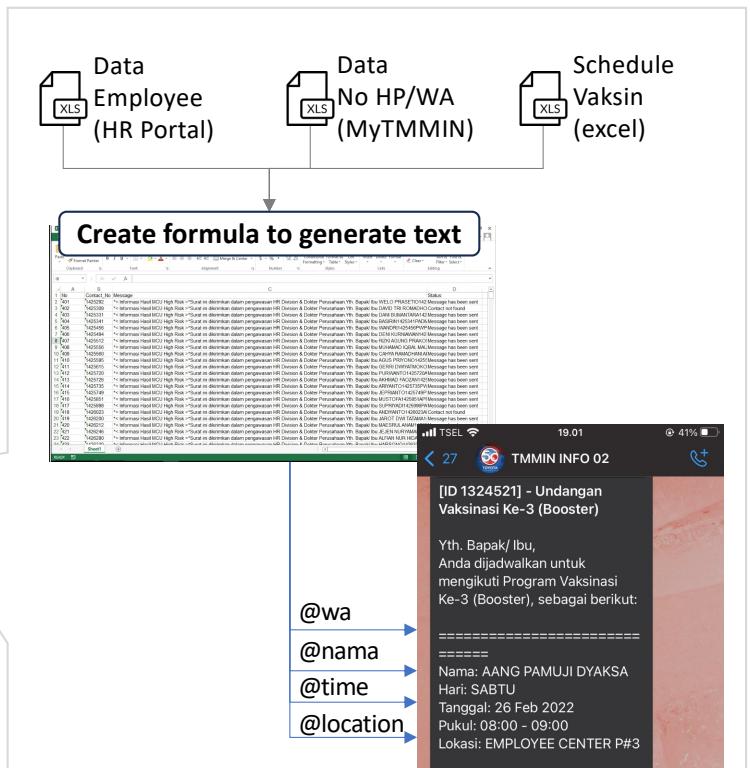
6.1. Problem Analysis (PDCA) – Problem 1



Content Preparation

Problem ① : Preparation took ± 191 min

No	Process	Std.	Actual	Judgement
1	Copy text template into excel	1 m	1 m	●
2	Get employee data from HR Database	5 m	5 m	●
3	Get data contact number from MyTMMIN	5 m	5 m	●
4	Create formula to generate customize text by recipient	30 m	± 180 m	✗
Total		41 m	191 m	



Case: Need to broadcast specific information to certain person for example inform vaccination schedule information.

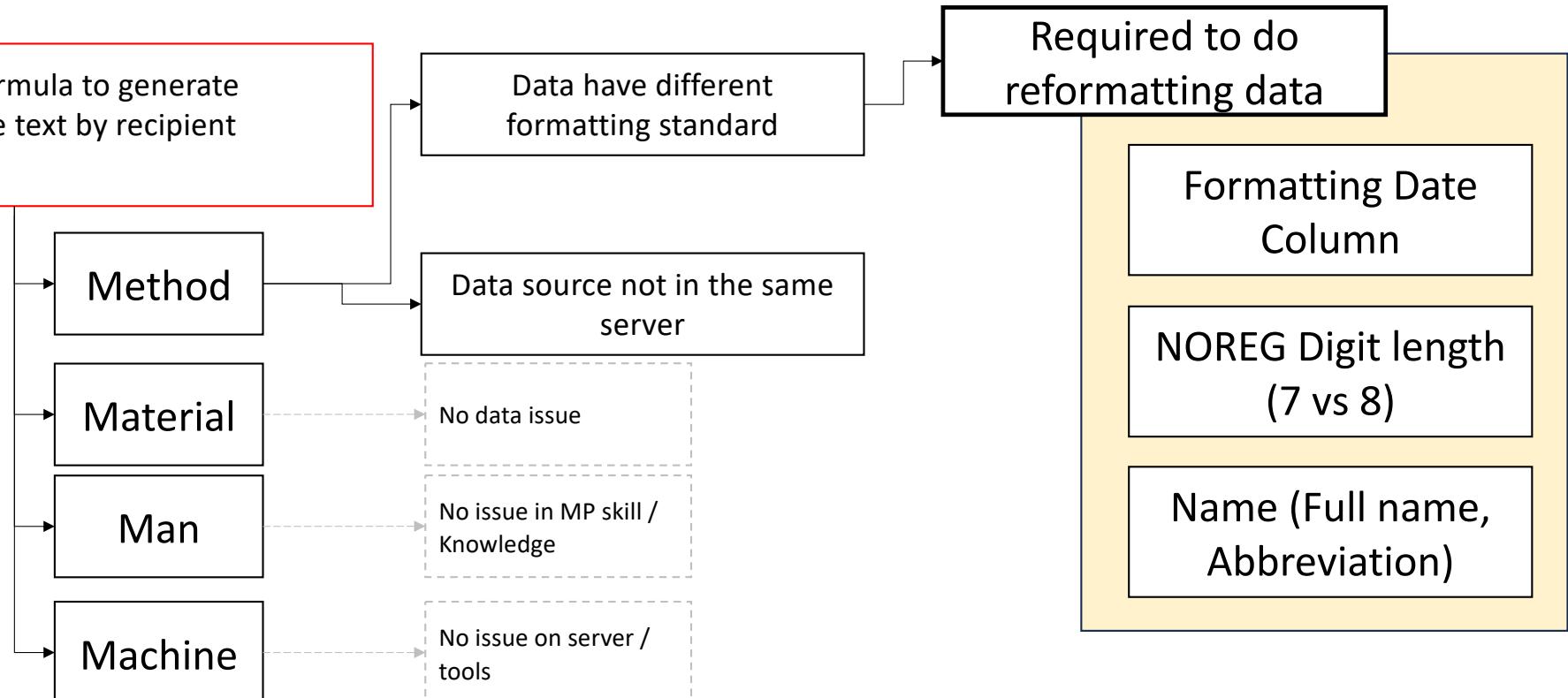
Note: Vaccine information was informed H-7 from D-Day (limited time)

6.2. Root Cause Analysis – Problem 1



4M Analysis

- Create formula to generate customize text by recipient (180 min)

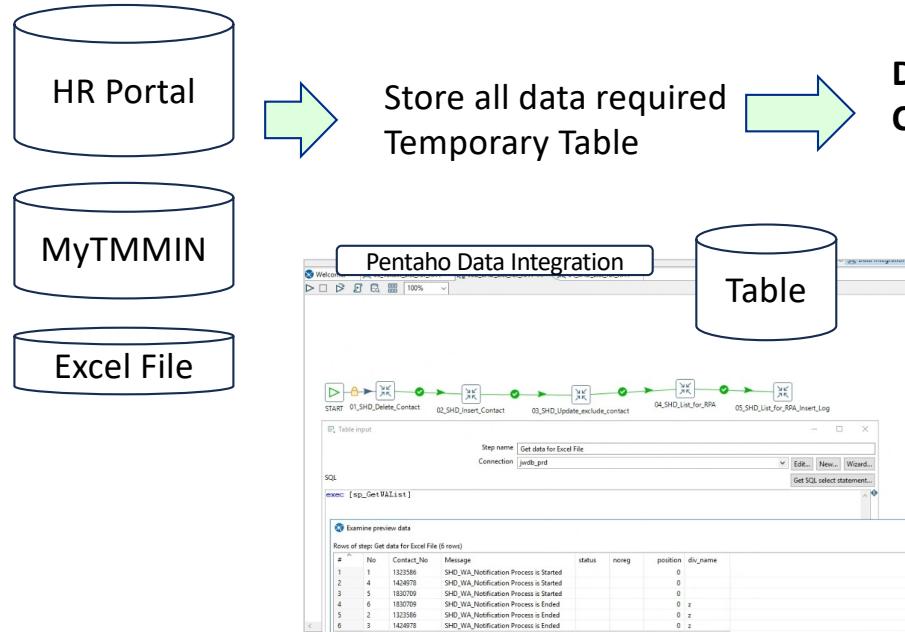


6.3 Countermeasure for Problem 1



Countermeasure:

Utilize additional tools (**Pentaho-Data Integration**) to combine data and generate file output faster



No	Process	Std.	Actual	Judgement
1	Copy text content into new excel	1 m	1 m	○
2	Get employee data from HR Database	5 m	5 m	○
3	Get contact number from MyTMMIN	5 m	5 m	○
4	Generate data text message by	30 m	7 m	✖ ➔ ○
Total		41 m	18 m	

7.1. Problem Analysis (PDCA) – Problem 2



Message Sending (RPA)

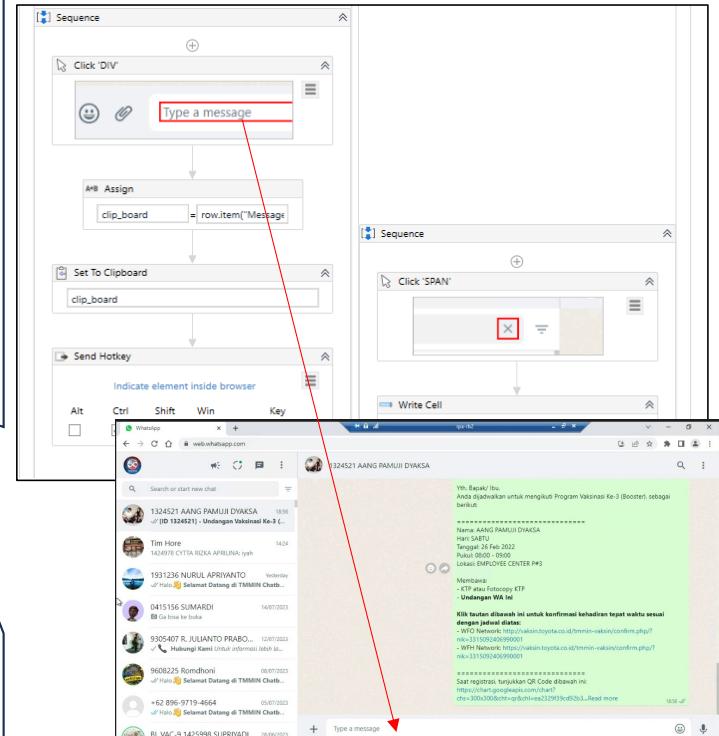
Problem ② :
Not achievable to broadcast ~35 sec /msg

9.7 Hour / 1000 chat

No	Process	Std.	Actual	Judgement
1	Read process data from excel	2 s	2 s	●
2	Search recipient on search	5 s	5 s	●
3	Insert attachment (if any)	15 s	12 s	●
4	Typing text content to chat	5 s	±14 s	✗
5	Click button send	2 s	2 s	●
Total		29 s	35 s	

Case: Type letter by letter the information to each chat then sending to employee (speed slow)

RPA Steps



7.2 Root Cause Analysis – Problem 2

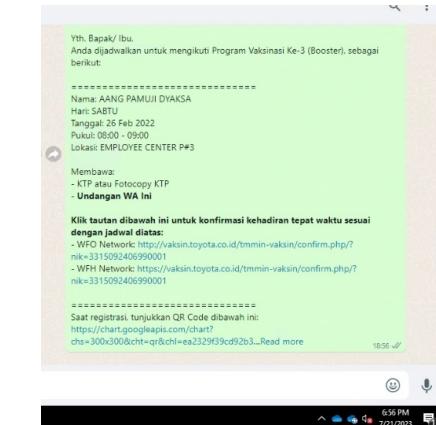
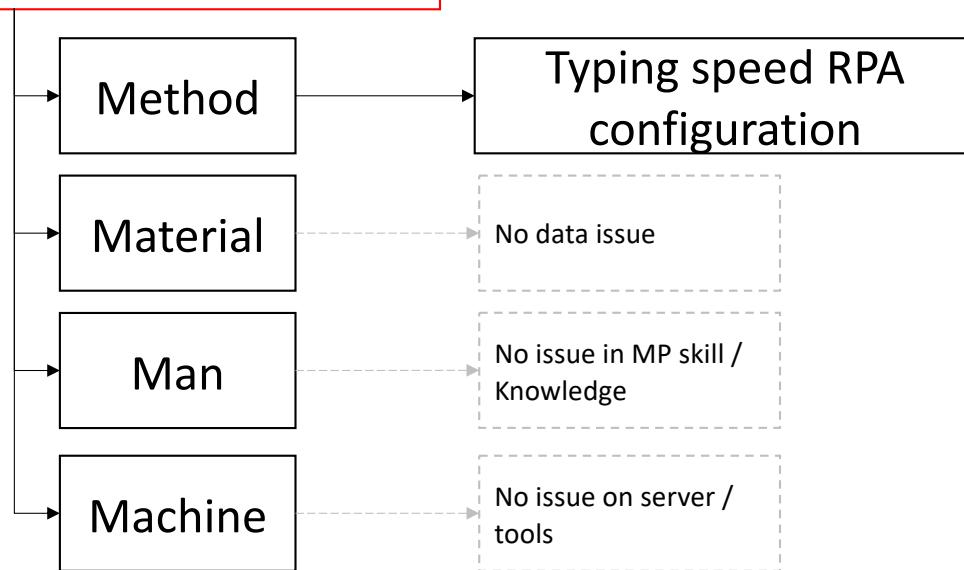


Problem ② :

Not achievable to broadcast ~35 sec /msg

9.7 Hour / 1000 chat

- Typing text content to chat **~14 s /chat**



7.3 Countermeasure for Problem 2

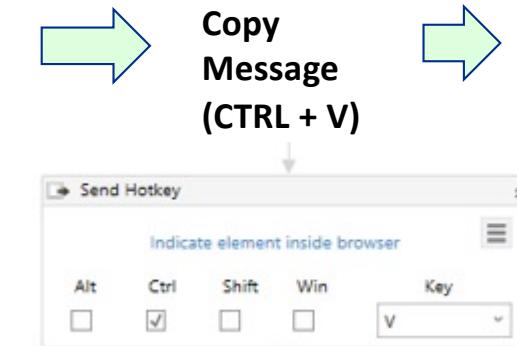
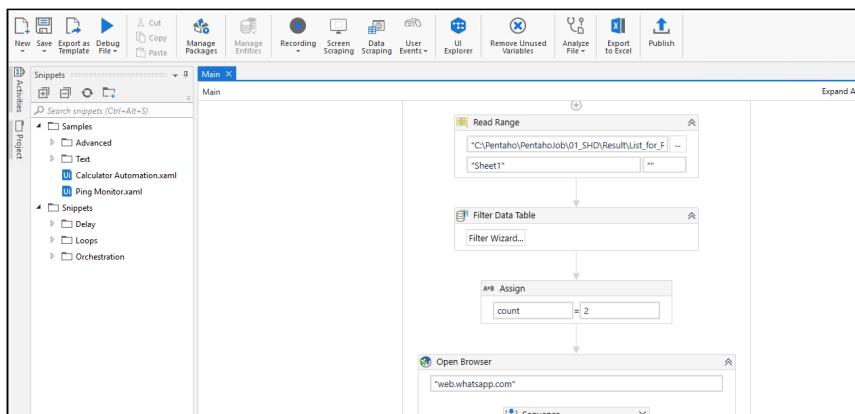


Problem ② : Not achievable to broadcast ~35 sec /msg

Countermeasure: Change typing method into Copy (Clipboard) & Paste (CTRL + V)

9.7 Hour / 1000 chat

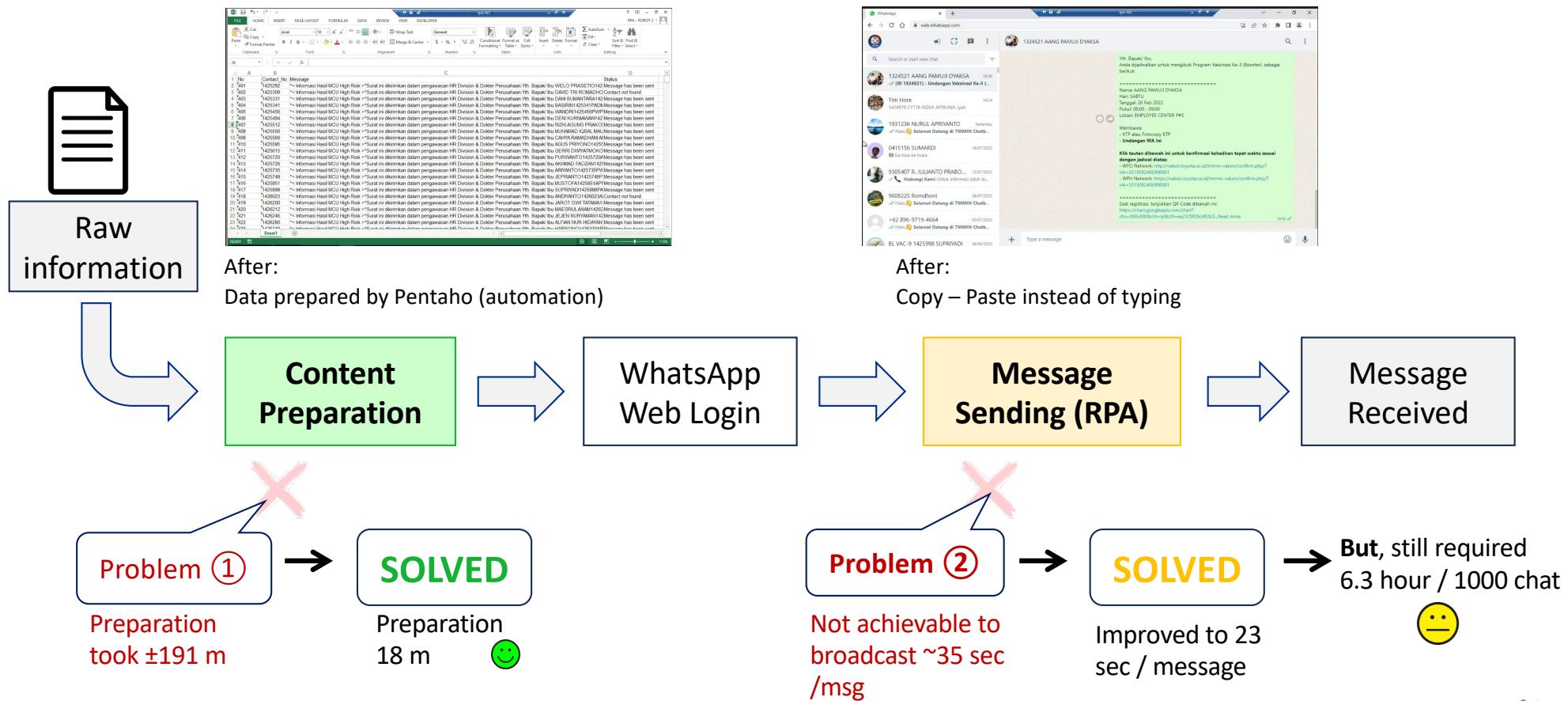
Open File Message → Copy text Message → Open Web WhatsApp → Copy Message (CTRL + V) → Send Message to Employee



Result:

No	Process	Std.	Actual	Judgement
1	Read process data from excel	2 s	2 s	○
2	Search recipient on search	5 s	5 s	○
3	Insert attachment (if any)	15 s	12 s	○
4	Typing text content to chat	10 s	2 s	✗ → ○
5	Click button send	2 s	2 s	○
Total			23 s	

10. Improvement Result



10.1 Additional Improvement



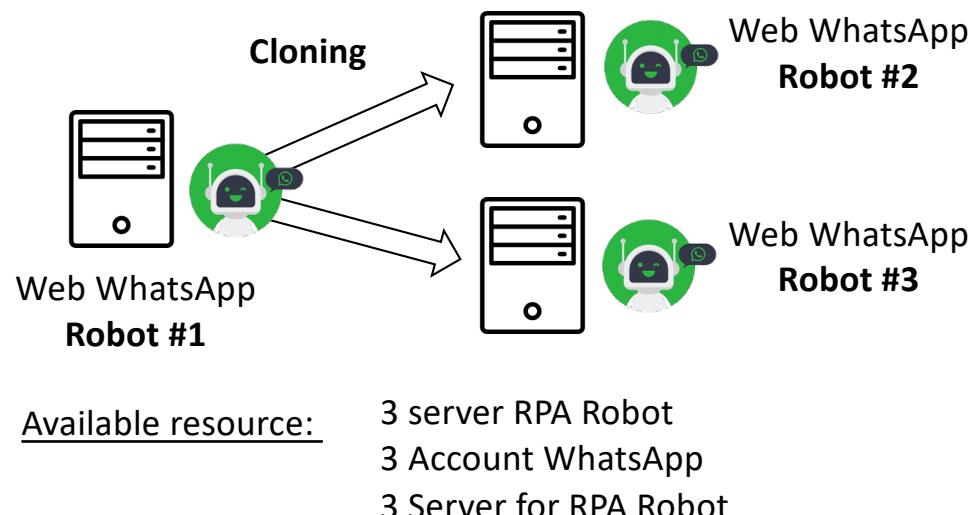
Message Sending (RPA)

Improved to 23 sec / message → But, still required 6.3 hour / 1000 chat 😕

Please maximize All available resources for continuous improvement!



A. Replicate Web WhatsApp Resources



Result:

Message Sending (RPA)

SOLVED → SOLVED

Improved to 23 sec / message

Capacity Sending:
6.3 hour / 1000 chat → 2.1 hour / 1000 chat

Message Received

11. Implementation – Change Management



Issue: WhatsApp number was reported as spam due to doing broadcast activity and there were Employee click “Report” / marked as spam

Change management activity:

Broadcast to Management All Division via email

Save WhatsApp Number:

- **Minimized WhatsApp number being blocked**
- Employee could **click URL attached** in message

[Information] Nomor TMMIN WhatsApp Broadcast



Administrator <it.administrator@toyota.co.id>

To



8/18/2020

Kepada Yth. Bapak/Ibu TMMIN Member,

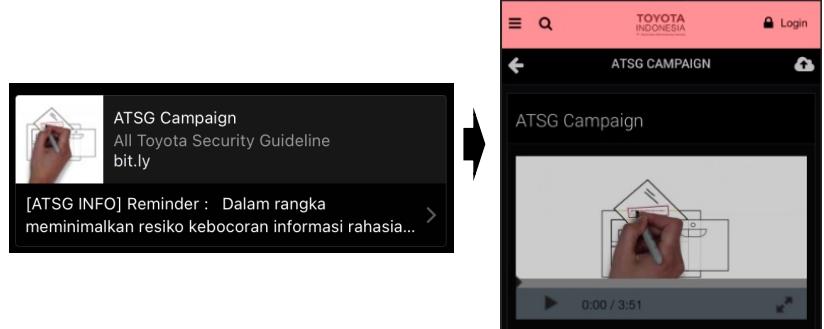
Untuk mempercepat sharing informasi terkini dari perusahaan kepada seluruh karyawan, akan digunakan **Whatsapp Broadcast** sebagai media komunikasi tambahan. Bapak dan Ibu perlu **menyimpan nomor berikut ini di daftar kontak ponsel masing-masing** untuk mulai mendapatkan informasi melalui Whatsapp Broadcast (tanpa dianggap sebagai spam oleh WhatsApp):

- **TMMIN INFO 01: +6281387805481**
- **TMMIN INFO 02: +6285283939012**
- **TMMIN INFO 03: +6287775996054**

Mohon untuk meneruskan informasi ini ke seluruh TMMIN member. Terima kasih atas perhatiannya dan kerjasamanya.

12. Implementation – Risk Management



No	Risk Analysis	Risk Type	Mitigation
1	Information broadcasted to employee forward to external parties 	Information Leakage	Educate employee & increase employee information security awareness using ATSG 
2	WhatsApp broadcast admin stolen 	Cyber security	<ul style="list-style-type: none">Add pin to access WhatsApp (additional security layer)Minimized usage of irrelevant mobile Apps in broadcast mobile unitAdd MFA request login (two step verification)

13. Project Result – Benefit Achievement



Tangible Benefit

1. Running Cost Reduction

IDR 25,781,250 /Month



2. Web Business Development Cost

IDR 225,000,000

3. Yearly WA Business account

IDR 60,500,000

Accumulated (2022 – 2023)

IDR 809,062,500

Estimation:

Avg. message 495.000 chat /year (Ref: 2022)



Compare to avg. chat cost 625 /msg



② Coverage of information



Condition:

Sending multimedia information via email



PDF



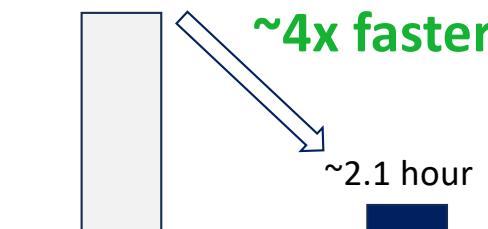
Video



Intangible Benefit

③ Productivity (every 1.000 msg)

~9.7 hour



Condition:

Sending personalized information (**unique information** to each employee)



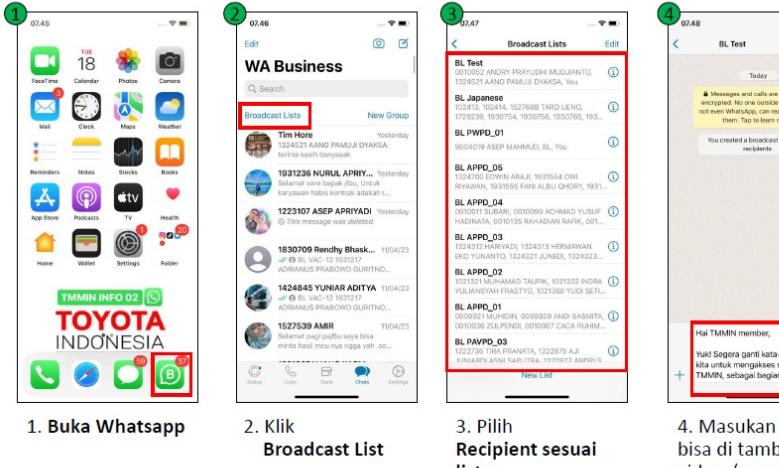
14. Process Standardization & Yokoten



Standardize Broadcast information:

- Std. Flow of process steps by steps
- Collaborate with HR-IR (Industrial Relation PIC)

Whatsapp Blast SOP – Broadcast Message



1. Buka Whatsapp

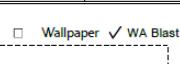
2. Klik Broadcast List

3. Pilih Recipient sesuai list

4. Masukan pesan, bisa di tambahkan video / gambar setelah itu klik icon send

5. Message telah ter-broadcast

Toyota Motor Manufacturing Indonesia Information System & Technology Division

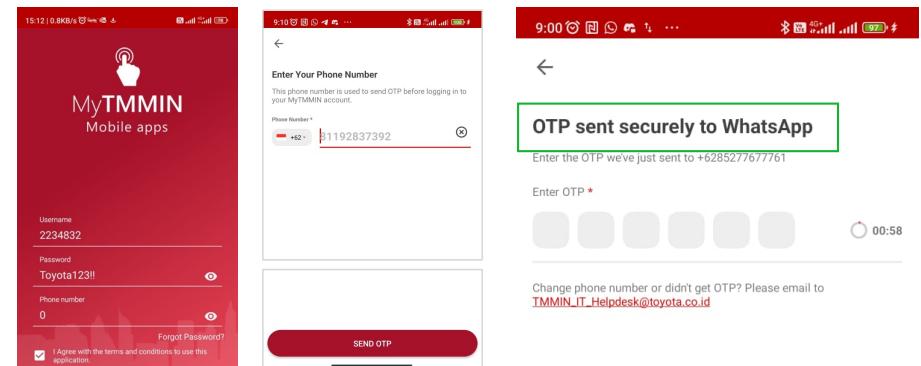
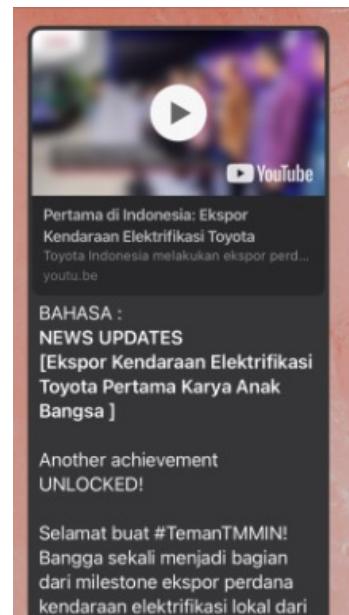
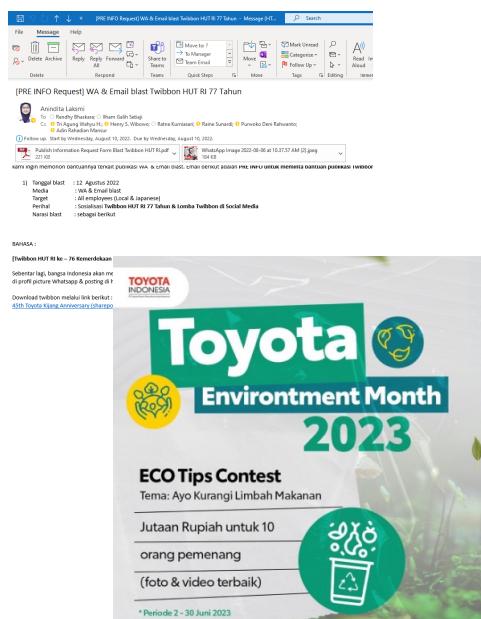
PUBLISH INFORMATION FORM		Date* : 06/06/2023 <small><Filled by IST></small>
Filled by Requester A1. Requester Information Name : Galih Jati Kusumo No.Reg : 1629075 <input type="checkbox"/> OK <input type="checkbox"/> NG HP : 081284072157 Division : PED  Reco Diman Putra 		
A2. Request Description Media : <input type="checkbox"/> Banner Login <input type="checkbox"/> Login Quiz <input type="checkbox"/> Login Video <input checked="" type="checkbox"/> WA Blast Standard Format - Banner Login -> Format : jpeg, jpg, .png Image Size : 450 x 300 pixel - Login Quiz -> 3 choice answers / 1 question Length : max 65 Characters - Login Video -> Format : .mp4 Size : max 15 MB Time : max 1 Min Period : From: 08/06/2023 To: / / Purpose : Share Env. Campaign activity info (Social Media Contest)		
Filled by HRD B1. Content Review <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Reject 		

15. Yokoten & Next Action



Yokoten:

- Yokoten to general purpose
(other Div. could use it)
 - Cyber Security – **OTP for MyTMMIN**
Protect sensitive information



Next Action:

- Roll out OTP function to HR Portal & Supplier Portal (IPPCS)

End of Slide

Thank you

09.10 ✓

