Fotof's Business Process Modelling

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Executive summary

Fotof, a photography company, hopes to achieve a 50% revenue increase by 2020, but at present, the company is facing declining customer satisfaction and other issues. This report briefly describe es the company's business and transforms the tedious business description into a BPMN model. This information can help managers standardize the company's processes and guide the company's direction of improvement. After modelling, the second part aims to redesign Fotof's order handling process model for improvement and document a guideline to implement the redesign recommended insofar. Given this, we first calculate the cycle time efficiency of the whole process to estimate the overall performance of the as-is process. Then we combine the results of the three qualitative analysis approaches, namely value-added analysis, waste analysis and stakeholder analysis involving customer and customer service staff, pinpointing the most visible top- level issues. Consider realistic assumptions, we conduct in-depth quantitative analysis for each issue. Among them, we find the most influential issue, drawing the why-why diagram to explore every causal or contributing factor. Also, we select three issues with top 3 highest impacts, which respectively are ‘delivery not conform to customer specification’, ‘customer wait long’ and ‘unintelligent human resource utilization’, around which to redesign the model. We adopt PICK chart, standing for Possible, Implement, Challenge, and Kill, to classify difficulty of changes and prioritise them. Finally, we discuss the limitations in the process of analysis such as lack of real data, lack of other types of stakeholders’ viewpoints, probably leading to biased issue exploration.

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1. Introduction

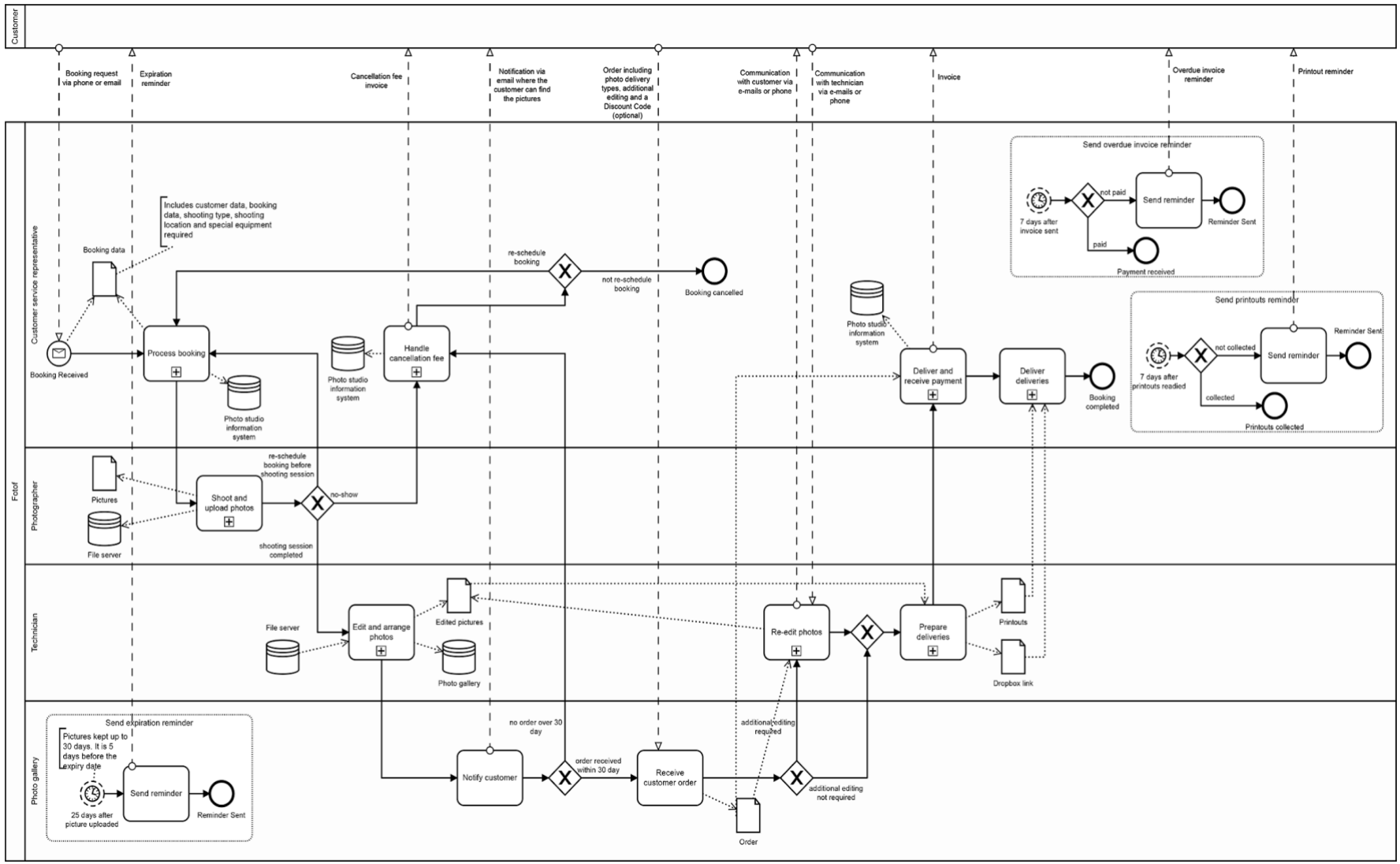
FOTOF is a one-stop photography company. The main business includes photography, editing and delivery. This business starts with a customer reservation. First, the company receives and enters customer reservations. Next came the arrangement for photographers to take pictures of customers. After the shooting is completed, the original photos will be transmitted to the technicians for pre-editing. Then, according to the customer's order, re-edit to produce the required photos. The next step is to calculate and charge the required fees. Finally, the completed photos are sent to the customer.

This report will first give an overview of the company's core business logic. Then, based on the above steps, the business is divided into several sub-processes to further demonstrate the details of the process and the assumptions in the model.

2. Process Profile

Process Name	Fotof's order handling process
Process Type	Order-to-cash
Vision	The objective of the process is to provide customers with one-stop service from shooting to edit to production, and collect remuneration.
Process Owner	The senior customer service representative
Customer of the Process	People who need photography services
Expectation of the customer	Give customers one-stop photography service and get paid accordingly
Trigger of the process	A booking of customers is received.
Outcome of the process	The company gets paid and sends photos to customers.
First activity	Process booking
Last activity	Deliver deliveries

Resources involved	The customer service representative, Photographer, Technician, software (booking database, photo gallery, dropbox), office, photographic equipment ...
Business objects and data stores	Photo studio information system ● Booking data ● Order file ● Bill statement File system ● Raw photos Photo gallery ● Preprocess photos ● Re-edited photos Deliveries ● Dropbox with deliverable photos ● Printouts
Process performance measures	Efficiency ● The time required for technicians to edit photos ● Cycle time ● Turnaround time in each sub-process Quality ● Customer Satisfaction Rate of Photographs ● Availability of raw photos ● Percentage of all kinds of cancellation Accidents ● The proportion of customer cancellations


Customer
Booking request via phone or email
Expiration reminder
Cancellation fee invoice
Notification via email where the customer can find the pictures
Order including photo delivery types, additional editing and a Discount Code (optional)
Communication with customer via e-mails or phone
Communication with technician via e-mails or phone
Invoice
Overdue invoice reminder
Printout reminder
Fotof
Customer service representative
Includes customer data, booking data, shooting type, shooting location and special equipment required
Booking data
Booking Received
Process booking
Photo studio information system
Handle cancellation fee
re-schedule booking
not re-schedule booking
Booking cancelled
Send overdue invoice reminder
7 days after invoice sent
not paid
Send reminder
Reminder Sent
paid
Payment received
Send printouts reminder
7 days after printouts readied
not collected
Send reminder
Reminder Sent
collected
Printouts collected
Photo studio information system
Deliver and receive payment
Deliver deliveries
Booking completed
Photographer
Pictures
File server
Shoot and upload photos
re-schedule booking before shooting session
no-show
shooting session completed
Technician
File server
Edit and arrange photos
Edited pictures
Photo gallery
Re-edit photos
Prepare deliveries
Printouts
Dropbox link
Photo gallery
Send expiration reminder
Pictures kept up to 30 days. It is 5 days before the expiry date
25 days after picture uploaded
Send reminder
Reminder Sent
no order over 30 day
Notify customer
order received within 30 day
Receive customer order
Order
additional editing required
additional editing not required

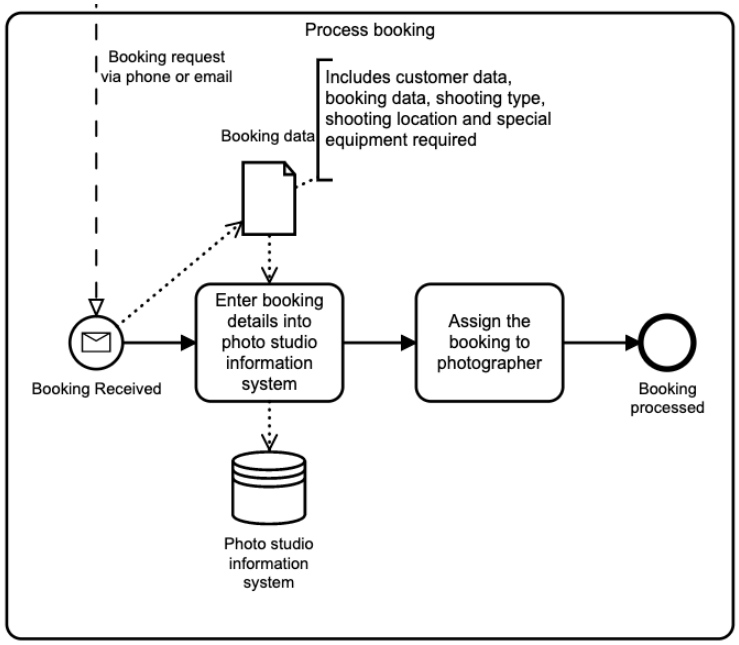
3. Business process model

3.1. Root model

As shown in the figure above, the model is composed of seven sub-processes in series, which represent different stages of service. They are Process booking, Shoot and upload photos, Edit and arrange photos, Re-edit photos, Prepare deliveries, Deliver and receive payment and Deliver deliveries. Another sub-process Handle cancellation fee works in parallel with them to handle cancellations.

According to the business logic of the company, the database can be divided into three parts. The Photo studio database handles all information about subscriptions, including customer information. The file database stores the original photos taken by all photographers for processing by technicians. The processed photos are stored in Photo Gallery database. The system has three independent timers to send reminders to users, namely photo expiration reminder, bill payment reminder and photo collection reminder. Because the photography service is highly customized, the shooting, selection and editing of photos should be in accordance with the needs of customers, so these parts need to communicate with users in advance.

3.2. Process booking

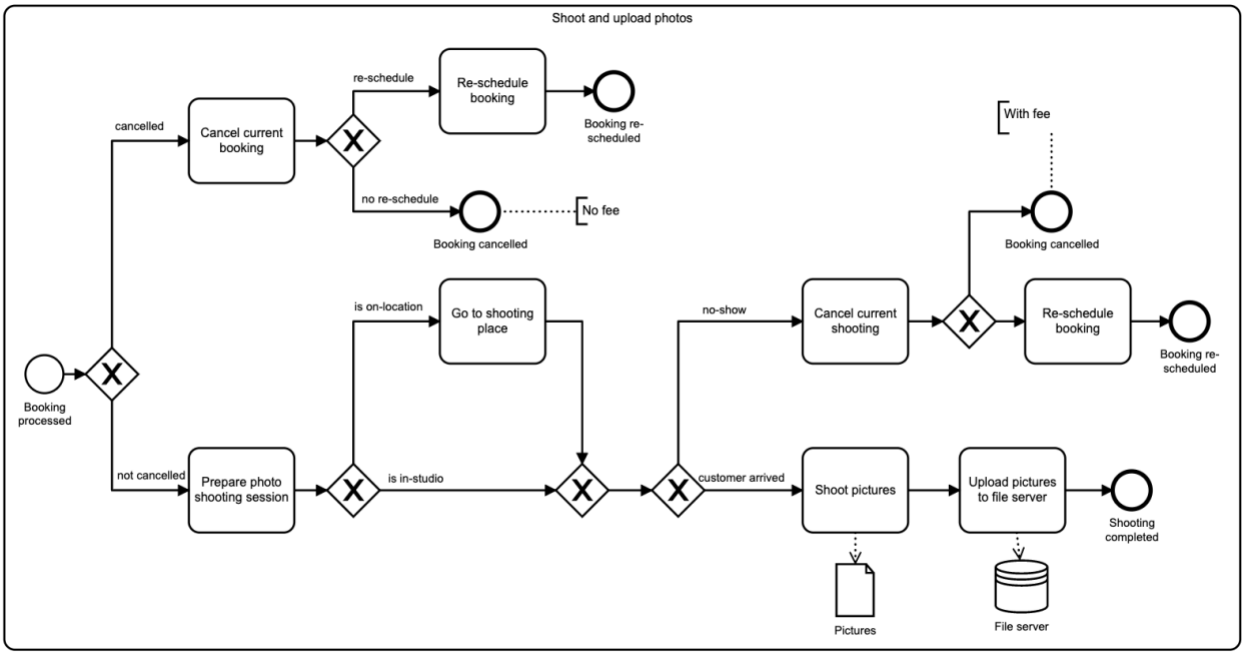


In this process, assuming that the booking time is always available. Therefore, when a booking arrived, Customer service representations generate booking data files based on information provided by customers, including customer data, booking data, shooting type and shooting location. These data will be

stored in the database for use by subsequent processes. For example, the shooting location is one of the parameters for calculating the bill amount.

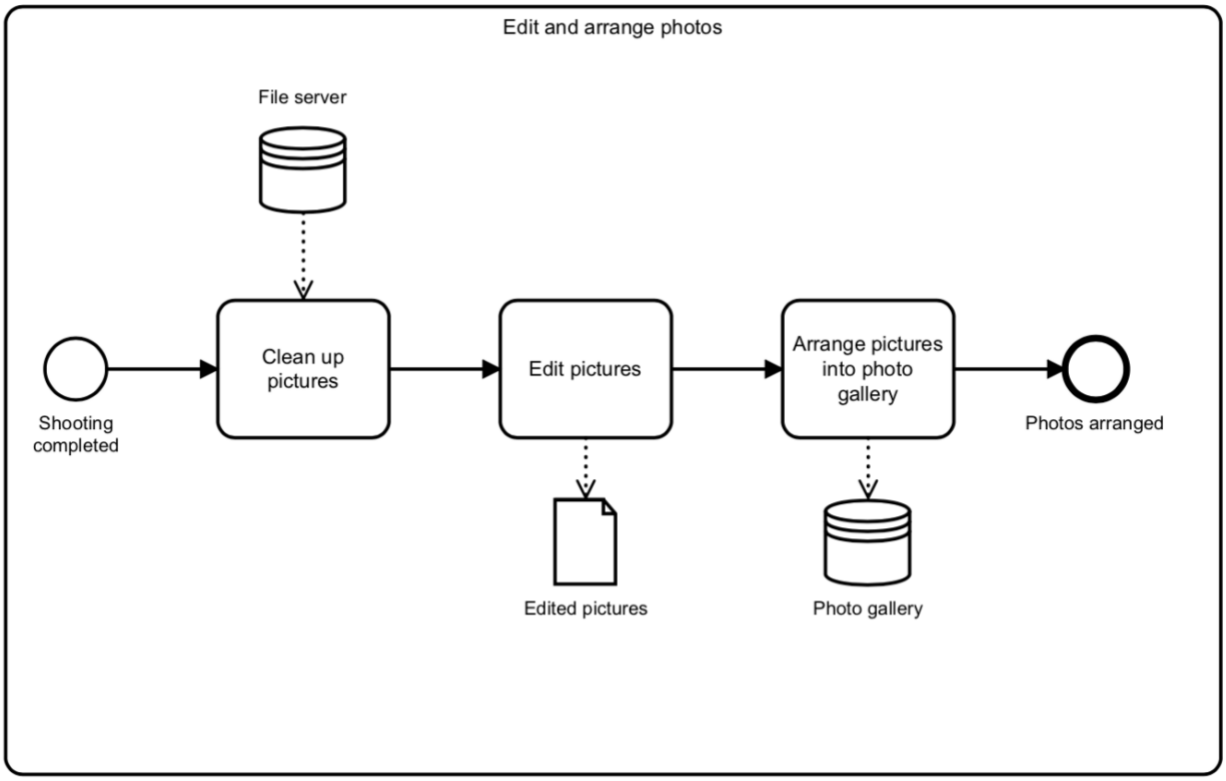
3.3. Shoot and upload photos

As presented in the figure, this sub-process includes the workflow from assigning photographers to upload photos. The photographer uploads the raw photograph to the file database. On the one hand, the database is a backup of the photos. The storage operation also starts the timer of the send expiration reminder at the same time. On the other hand, the database can be used as a tool for handing over data to technicians. Another important thing to note is that exception may occur before or at the beginning of a shooting session. If the customer cancels the booking, the photographer records the reason and transfers it to the cancellation cost calculation process. If the customer wishes to reschedule the reservation, they return to the Process Booking sub-process.



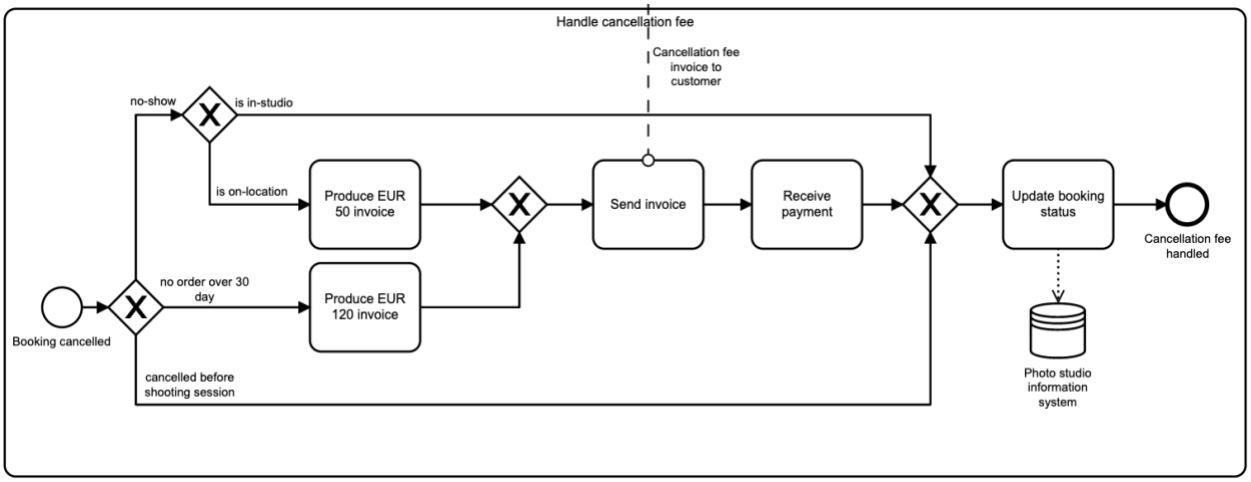
3.4. Edit and arrange photos

When the photo session is completed, technicians will load the photos from the database and preprocess them. We distinguish this subprocess from the Re-edit Photos subprocess because the former is more general. At the end of every photo session, photos need to be cleaned. However, the latter only needs to be implemented when required by customers. All the preprocessed photos are placed in the photo gallery database.



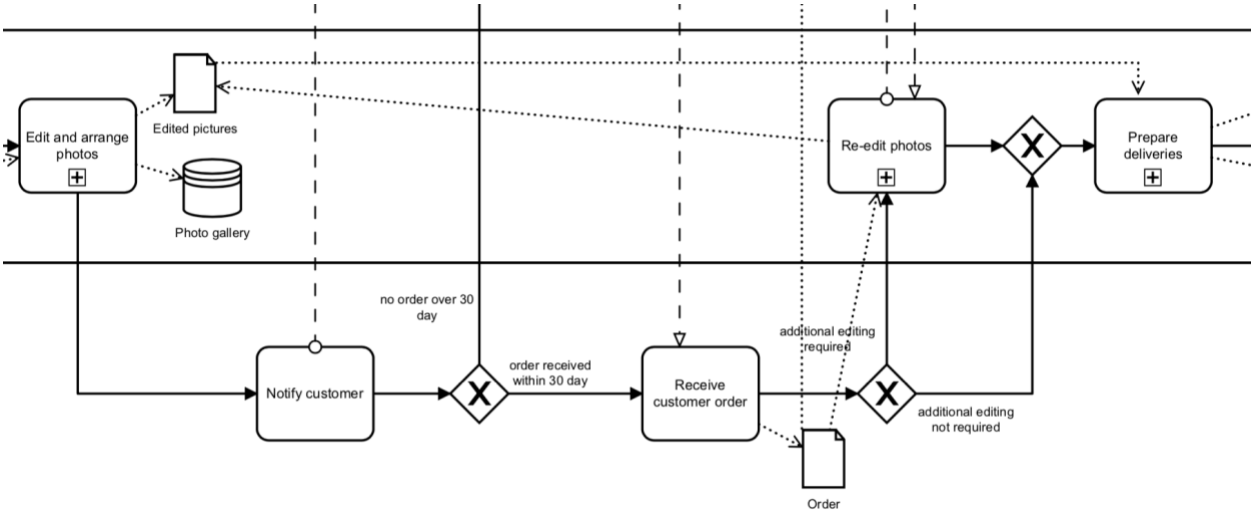
3.5. Handle cancellation fee

This sub-process is triggered to handle cancellations uniformly wherever it happened in the workflow. The cancellation fee is calculated first. If no charge is required, the process is terminated directly. Otherwise, the bill is sent to the customer. In any case, state update is stored in the Photo studio information database.

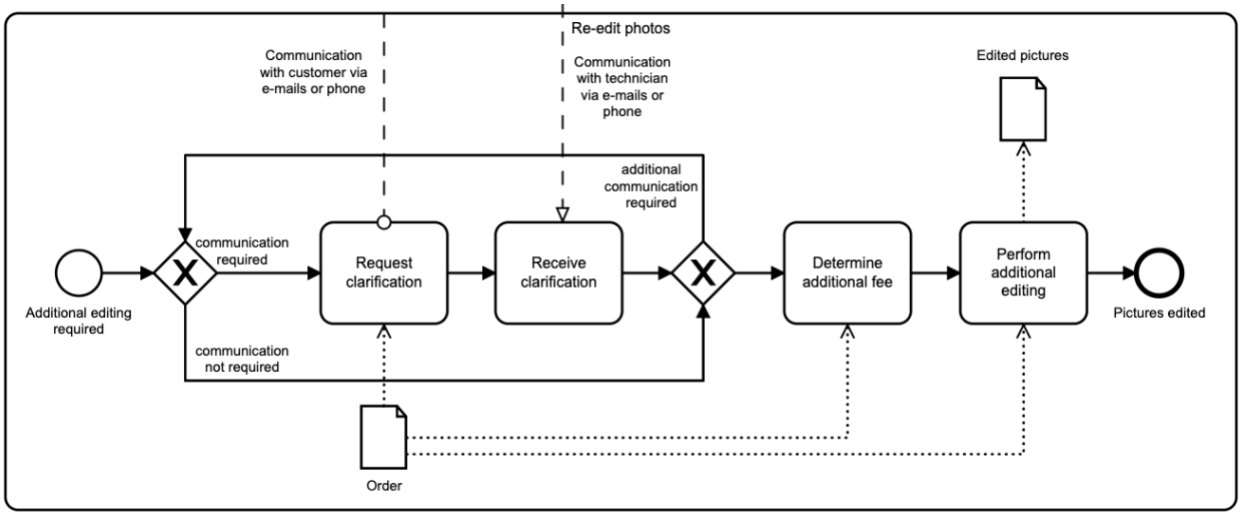


3.6. Re-edit photos

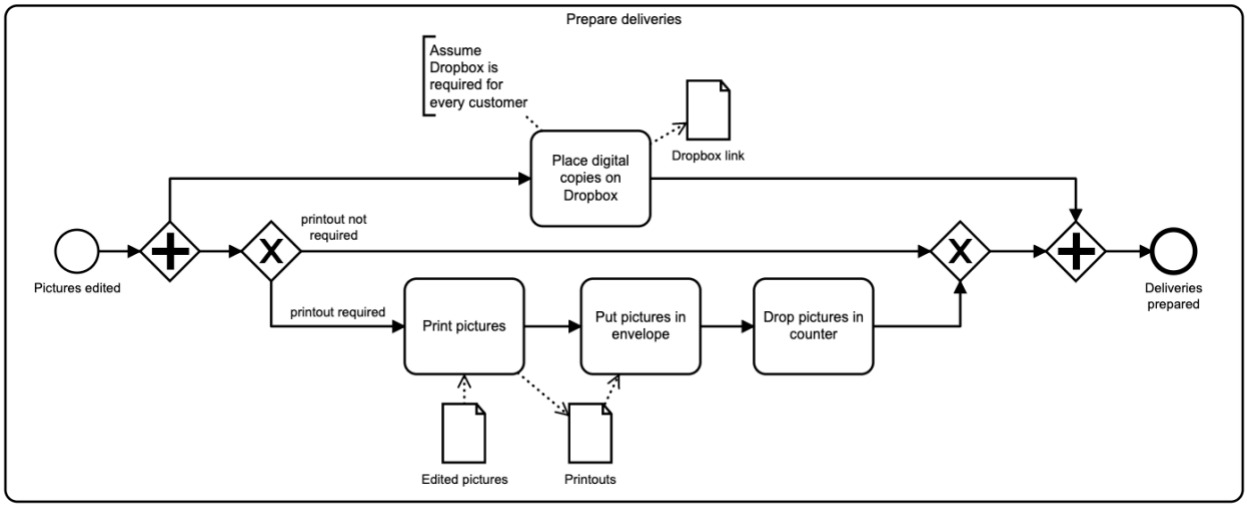
After photos preprocessing, the system will automatically send a notification to the customer and start the timer. If customers don't place an order within 30 days, the system assumes they have cancelled the order and transfer them to the Handle cancellation fee sub-process. Photo Gallery database has corresponding web software as the client application. Customers can use this to preview photos and make order requests. Order data, such as the number of photos required and further editing requirements, will store in Order file, which will be used to calculate costs and guide the re-editing of photos.



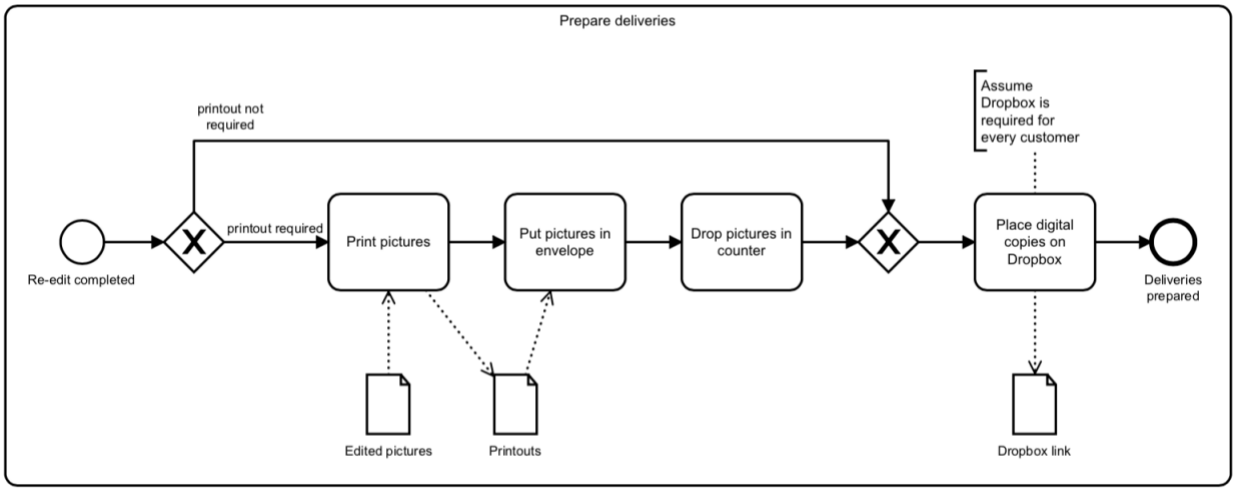
If customized editing is required, the Re-edit Photos subprocess is triggered. Because the customer's needs may not be clear enough or change, technicians may communicate with customers on implementation and cost issues many times.



3.7. Prepare deliveries

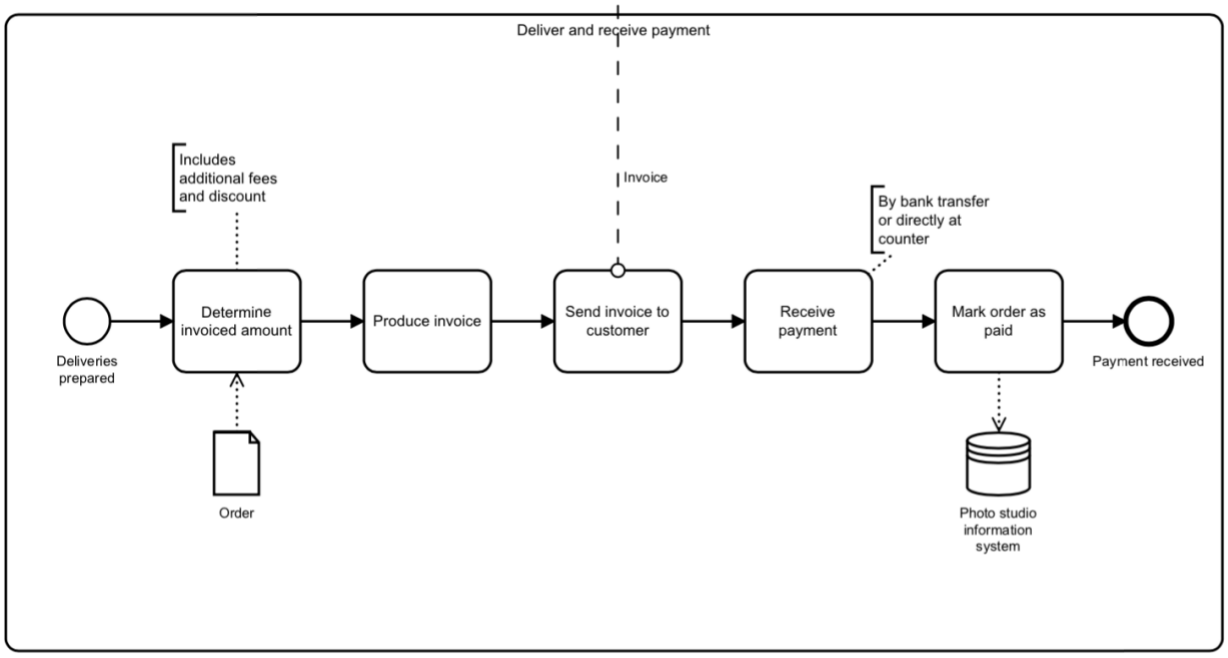


When re-editing is completed or not needed, technicians execute the Prepare Delivers subprocess to generate deliverable products. For each order, we will place the selected photo files in the unique Dropbox for later online delivery. Printed copies are printed only when needed.



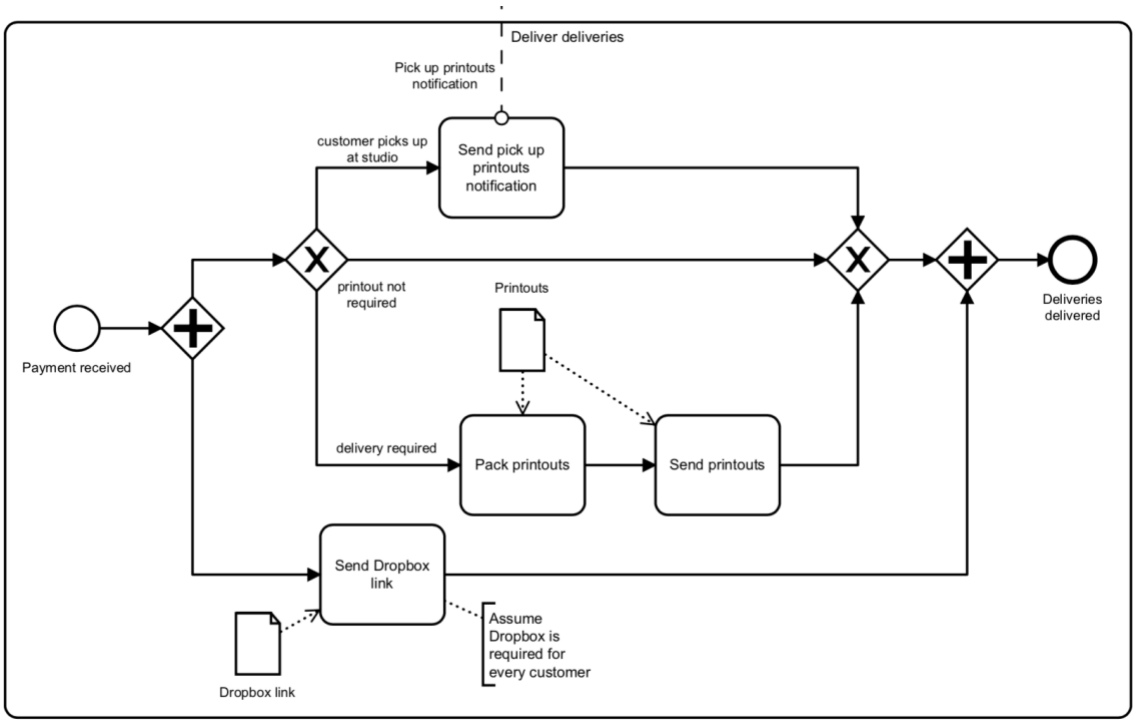
3.8. Deliver and receive payment

When the photo is deliverable, the customer service representative will view the Order file to get cost information such as discount code and re-edit fee. Based on this information to calculate the total bill. When sending bills to customers, start the overdue invoice timer to notify the customer if no payment is made within 7 days. After the customer completes the payment, the customer service representative updates transaction state in the database.



3.9. Deliver deliveries

When the payment is completed, the final step is to deliver the photos. Electronic photos are delivered uniformly through Dropbox URLs. The delivery method of print varies according to the request. If the customer decides to pick it up by himself, the timer will be triggered 7 days later to decide whether to send a reminder based on whether printout has been taken away.



4. Process Analysis

4.1 Cycle time efficiency

Assumption 1: Uniformly, ‘day’ is equal to 8 hours.

Record Booking

t_enter_details = 5

t_check_update = 2 + 30

t_cancel_booking = 2 + 15

RecordBooking = (t_enter_details + 0.3*t_check_update) / 0.2 + t_cancel_booking

PT = 30 mins

CT = 90 mins

Perform Shooting Session

t_drive = 30

t_take_photos = 120 + 60

t_upload_photos = 10 + 20

PerformShootingSession = 0.3*t_drive + 0.96*(t_take_photos + t_upload_photos)

PT = 133.8 mins

CT = 210.6 mins

Fulfil Order

Assumption 2: P(without_special_requests)= P(only_edit_photos) = 1 - P(both_discuss_special_request and_edit_photos) - P(only_discuss_special_photos), where P(only_discuss_special_photos) = 0

t_check_order =10 + 10*day

t_edit_photos = 600 +5*day

t_discuss_special_requests =60 + 3*day

t_upload_to_dropbox = 10 + 30

t_print_and_drop = 10 + 10

FulfilOrder = t_check_order+0.45*max(t_discuss_special_requests,t_edit_photos) + 0.45* t_edit_photos + 0.65*t_upload_to_dropbox + 0.05*t_print_and_drop +

0.3*max(t_upload_to_dropbox,t_print_and_drop)

PT = 560 mins

CT = 7549 mins

Collect Payment

p_reminder = 0.03

p_at_studio = 0.3

t_send_payment_reminder = 3

t_collect_payment = 3 + 10

t_updata_order = 3

CollectPayment = t_send_payment_reminder / (1-p_reminder) - t_send_payment_reminder + p_at_studio * t_collect_payment + t_updata_order

PT = 3.99 mins

CT = 6.99 mins

Deliver Photos

t_send_collection_reminder = 3

t_handover_printouts = 5 + 10

t_send_dropbox = 2

t_send_printouts = 15 + 1*day

p_inperson = 0.1

p_reminder = 0.03

printouts = p_inperson * ((t_send_collection_reminder / (1-p_reminder) - t_send_collection_reminder) + t_handover_printouts) + (1 - p_inperson) *t_send_printouts

DeliverPhotos = (0.95+0.35-1)*max(t_send_dropbox,printouts) + 0.65*t_send_dropbox + 0.05*printouts

PT = 6.20 mins

CT = 157.75 mins

Root Process

t_clean_photos = 15 + 60

t_arrange_photo_gallery = 20 + 20

t_notify_customer = 2

t_cancel_booking = 2

t_produce_and_send_invoice = 8

Total =RecordBooking + 0.94 *(PerformShootingSession+0.04*t_cancel_booking + 0.96 * (t_clean_photos+t_arrange_photo_gallery+t_notify_customer+FulfilOrder) + t_produce_and_send_invoice + CollectPayment +DeliverPhotos)

PT = 711.68 mins

CT = 7368.22 mins

CTW = PT/CT = 9.66 %

4.2 Value-added analysis

Step / Task	Performer	Classification
1.Record Booking		
Fill booking request	Customer	VA
Send request to studio	Customer	NVA
Open and read booking	CSR	NVA
Enter Details into IS	CSR	BVA
Send update request	Customer	VA
Find and read received update request	CSR	NVA
Check Update	CSR	VA
Cancel Booking	CSR	BVA
Assign booking to photographer in session time	CSR	NVA
2. Perform Shooting Session		
Drive to location	Photographer	NVA
Take photos	Photographer	VA
Upload photos to server	Photographer	BVA
3. Present photos to customer		
Clean photos	Technician	VA
Arrange shots into photo gallery	Technician	BVA

Notify customer	Technician	VA
View gallery	Customer	VA
4.Fullfill order		
Select photos	Customer	VA
Add special request	Customer	VA
Check order	Technician	BVA
Edit photos	Technician	VA
Discuss special requests with customer	Technician	VA
Print photos	Technician	VA
Put photos in envelope and drop	Technician	NVA
Upload digital copies to Dropbox	Technician	VA
5.Collect payment	CSR	BVA
Determine the amount	CSR	BVA
Produce invoice	CSR	BVA
Send invoice to customer	CSR	VA
Pay the invoice	Customer	BVA
Send payment reminder	CSR	BVA
Update order as paid	CSR	BVA
6.Deliver photos		
Send collection reminder	CSV	BVA
Send photos (digital copies OR/AND printouts) to customer	CSV	VA
Collect printouts	Customer	VA

4.3 Waste analysis

Types	Step/Task
Transportation	1. (Customer) send request to studio 2. (CSR) enter Details into IS 3. (CSR) assign booking to photographer in session time 4. (Photographer) upload photos to server 5. (Technician) arrange shots into photo gallery 6. (Technician) notify customer to view photos in gallery 7. (Technician and Customer) discuss special requests by e-mail or phone 8. (Technician) put photos in envelope and drop 9. (Technician) upload digital copies to Dropbox 10. (CSR) send invoice to customer 11. (CSR) Send payment reminder 12. (CSR) Send collection reminder 13. (CSR) Send photos (digital copies OR/AND printouts) to customer
Motion	(Photographer) drive to location
Inventory	1.(Technician) may clean the photos in batches and thus photos are in pending status not available for customer to review as soon as possible. 2.Similarly, (Technician) may be used to editing photos concurrently not in straight-through processing, making more photos in the gallery.
Waiting	1.Task (photo editing) waiting for resources (technicians): the distribution of different categories of employee may not be optimal; e.g. photographer takes a picture in 5 second but technician edit it in 600 minutes. Therefore, if technicians are proportionally fewer than photographers, there will be many photo editing tasks waiting for technician to handle. Conversely, technician waits for photos coming.

	2. All of the customers in a technician's to-serve list may take too long to finish selecting pictures they wish to order, which makes technician idle. 3. Similarly, (Technician) may do nothing but to wait for customer's messages during discussing special requests. 4. Customers late-show or no-show for appointments and thus photographers only idle in the whole or part of scheduled time period.
Defect	1. In the record booking task, once update from customer is captured, CSR will reschedule the request by reworking entering details into IS or cancel it as needed. 2. Check payment/collection status and if the status is 'not yet', resend payment/collection reminder after every 7 days until 'done' 3. CSS manually handles customer's order or special requests, causing the request mishandled or forgotten due to manual error. Hence, CSS may recheck the requests or rework for complaint resolution.
Overprocessing	1. Technician's unnecessary perfectionism at cleaning and editing photos before arranging into the gallery, for instance, for example, spending time on saturation, color balance and sharpness, the customer, however, just want the raw photos. 2. Customer may continue to modify their booking request which are processed by CSV right away, due to unlimited modification mechanism in booking record task, but in the end, the customer cancel the booking. 3. Photographer drives to location but customer no-show.
Overproduction	Delivery not conform to customer specifications (customer may argue on a full refund)

4.4 Issue register

Global assumptions adapted to all the issues below:

1. Average revenue per customer = 200 euro; 10000 customer p.a.

2. On average one customer comes once a year, taking 200 euro revenue.

3. The average Cost-To-Company (CTC) of a CSS, photographer, technician p.a. is respectively 37000, 41000, 35000 euro; working hours p.a. = 230 hours for all employees.

ISSUE NAME	1.Delivery not conform to customer specification
PRIORITY	1
DESCRIPTION	Customer's order or special requests are mishandled or forgotten due to clerk's manual record error of submitted changes, and thus customers are not satisfied with final delivery.
ASSUMPTIONS	10% of customers dissatisfies delivery: 70% of which not coming back anymore.
QUALITIVE IMPACT	1. Customer's dissatisfaction with delivery may lead to leaving our service and switching to another company. 2. Too much complaint will increase staff workload. 3. The reputation of company will be damaged.
QUANTITATIVE IMPACT	probability of customer becoming dissatisfied = 0.1 probability of customer not coming back = 0.1*0.7 = 0.07 number of customers leaving our service = 10000 * 0.07 = 700 potential financial loss = 700 * 200 = 140000 euro

ISSUE NAME	2.Customer wait long
PRIORITY	2
DESCRIPTION	Customer complain that it takes too long to review pictures after photo shooting session, again too long to receive delivery. Similarly, complaint resolution service takes long particularly regards to perceived defects in the delivered digital and printout copies.

ASSUMPTIONS	15% of customers per year on average experience once this issue: 50% of which not coming back anymore.
QUALITIVE IMPACT	1.Customer cannot stand the turnaround times for so long and thus may switch to another company. 2.bad reputations for company
QUANTITATIVE IMPACT	probability of customer waiting long in any mentioned time node: 0.15 probability of customer thus not coming back anymore: 0.15*0.5 = 0.075 potential financial loss = 10000* 0.075 * 200 = 150000 euro

ISSUE NAME	**3.Unintelligent human resource utilization**
PRIORITY	3
DESCRIPTION	The unintelligent utilizations of customer service staff (CSS) are mainly reflected in the following aspects: 1. appointment management is time-consuming due to customer unlimited number of modifications. 2. too many enquiries and complaints need to be processed manually, which are cumbersome and time-consuming. 3. orders and special requests can only be noticed and handled manually.
ASSUMPTIONS	1.The number of CSS: photographer: technician in the company = 2:2:1. 2.20% of staff resign from the company, among which CSS stand at 80%. 3.Turnover cost (recruit cost plus correspond handover cost) to the company is approximately equal to half month's salary of the position. 4.On average Customer service staff spend 1/3 time on non-profitable manual work, here simply making the financial loss equal to the same percentage of the salary paid to employees in this period.

QUALITIVE IMPACT	annoyance and low morale spreading among employees
QUANTITATIVE IMPACT	These aspects cause all-time high staff turnover rate, thereby generating a turnover cost to company including recruit cost and financial loss on handovers. Besides, the company still needs to pay for massive non-profitable manual work, adding useless costs. Calculations are as follows: Number of process participants: 50: among which the number of CSS = 50*(2/5) = 20 The number of resigned CSS p.a.: 50*0.2*0.8 = 8 Turnover cost of per CSS: 37000/12*0.5 = 1542 euro Total turnover cost p.a. = 1542* 8 = 12336 euro Useless manual cost p.a.= (1/3) * 37000 *20 = 246667 euro Potential finance loss = turnover cost + non-profitable manual work = 259003 euro

ISSUE NAME	**4.late-show or no-show**
PRIORITY	4
DESCRIPTION	Customer may late-show or no-show for appointments for in-studio sessions or on-location sessions.
ASSUMPTIONS	1. 10% late-shows for in-studio sessions; 2% for on-location. 2. 3% of no-shows for in-studio, 1% for on-location. 3. No-shows for on-location attract 50 euro 4. One no-show case will waste 10 working mins of CSS, leave one photographer free for 1 hour on average and not waste working time of any technician; one late-show case will not waste time of CSS and technician, but on average 10 min waste on photographer. 5. Assume no-show customer will not reschedule the booking to a later day.

QUALITIVE IMPACT	1. disrupt photographer's schedule, making them depressed. 2. some customers didn't mean to be late or no-show but will never come because of shame.
QUANTITATIVE IMPACT	hourly salary of CSS, photographer: 37000/230/8 = 20 euro, 41000/230/8 = 22 euro human resources waste for one no-show: 20*(1/6) + 22 = 25 euro; for late-show: 22*(1/6) = 3.7 euro financial loss for late-show in-studio p.a.: 10%*10000 * 3.7 = 370 euro late-show on-location p.a.: 2%*10000*3.7 = 740 euro no-show in-studio p.a.: 3%*10000*25 + 200*3%*10000 = 67500 euro no-show on-location p.a.: 1%*10000*(25 + 200 -50) = 17500 euro Total potential finance loss: 86110 euro

ISSUE NAME	**5.Order cancellation**
PRIORITY	5
DESCRIPTION	The customer does not order any pictures within 30 days after the shooting session.
ASSUMPTIONS	the customer is invoiced a photo shooting fee of EUR 120 for in-studio sessions (EUR 160 for on-location one). 1% of the customers fall in this category: 0.9% in-studio, 0.1% on-location.
QUALITIVE IMPACT	Gallery has to keep storing the pictures forever if the customer never fetches them.
QUANTITATIVE IMPACT	average revenue per customer = 200 euro; 10000 customer p.a. Potential finance loss p.a.: 200*1%*10000-0.9%*10000*120 + 0.1%*10000*160 = 7600 euro

4.5 Why-why diagram

ISSUE 1 Unintelligent human resource utilization, why?

- Excessive enquires need to be processed, why?
    - Customers wonder status of orders or deliveries, why?
        - Notifications from company via e-mail or phone not in time; Besides, customers cannot actively track status anytime anywhere.
        - Customer still not yet receive deliveries, why?
            - shipment via traditional postal service causes delay.
- Excessive complaints after delivery need to be resolve, why?
    - The delivery doesn't conform to the customer's submitted specifications, why?
        - Orders and special requests are found recorded incorrectly, or not recorded why?
            - Updates are currently captured and handled manually by CSS, which may incur omission or typo during record.
- CSS constantly check and record updates in the booking task, why?
    - The booking system doesn't have functionality of automatically update details into IS.
    - Customer's unlimited number of modifications to their appointment, why?
        - The booking system does not set the upper limit of modification times or additional fees after certain times.

5. Process Redesign

5.1 Description

CHANGE NO.	1
ISSUE(S) ADDRESSED	**Delivery not conform to customer specifications**
DESCRIPTION	Allow customers to preview the edited photos before uploading them to the Dropbox, if there is any dissatisfaction, the technician should discuss with the customer and re-edit the photos until the customer is satisfied, though an additional fee might be charged. If required, the technician will print the photos, take a photo of the

	printouts and send it to the customer. If the customer finds any defect in the printouts, the technician should reprint them. If the customer requires a reprint due to personal reasons, an additional fee should be charged. As a result, the company can make sure customer satisfaction remains high.
IMPACT ON PERFORMANCE	This will improve the quality of the service. Fewer customers will be dissatisfied. They are more likely to become regular customers. However, this change could cause turnaround times to increase.
HEURISTICS OR BPR PRINCIPLES USED	Heuristic 8. Communication Optimization: Get enough information through more communications

CHANGE NO.	2
ISSUE(S) ADDRESSED	**Customer wait long**
DESCRIPTION	For regular customers and corporate customers with high integrity, the customer service representatives may deliver the photos once they are ready, then produce invoices and collect payments at the same time. This can reduce turnaround times before receiving the delivery.
IMPACT ON PERFORMANCE	This can improve the efficiency of the service. Customers will receive the photos earlier, which also could improve customer satisfaction. On the other hand, this change may bring some risks to the business.
HEURISTICS OR BPR PRINCIPLES USED	(1) Heuristic 3. Activity Specialization: Treat regular customers differently (2) Heuristic 5. Parallelism: Handle deliveries and invoices

	simultaneously

CHANGE NO.	3
ISSUE(S) ADDRESSED	**Unintelligent human resource utilization**
DESCRIPTION	Build a business website including an online order system that allows the customer to make an appointment, check the available time, change or cancel the appointment (The customer service staff will get a notification after any modification). Each staff should update the order status after activities completed, so the customer can check the status online. For example, the photographer could change the status to “Submitted photos to technician” after photo uploaded to the file server. The customer service representative could change the status to “Delivering” after delivery as well as provide the tracking number. The website should also list the price information, order status workflow, estimated time. The customer should be allowed to leave feedback after the order completed. This can reduce the workload of the customer service staff by using self-service.
IMPACT ON PERFORMANCE	This will improve the quality of the service because self-service will reduce the possibility of mistakes. Time efficiency will improve due to the workload reduction of the customer service staff, which will also have a positive influence on staff satisfaction. Customer service staff will have more time to help customers who prefer operator services. It can also improve customer satisfaction.

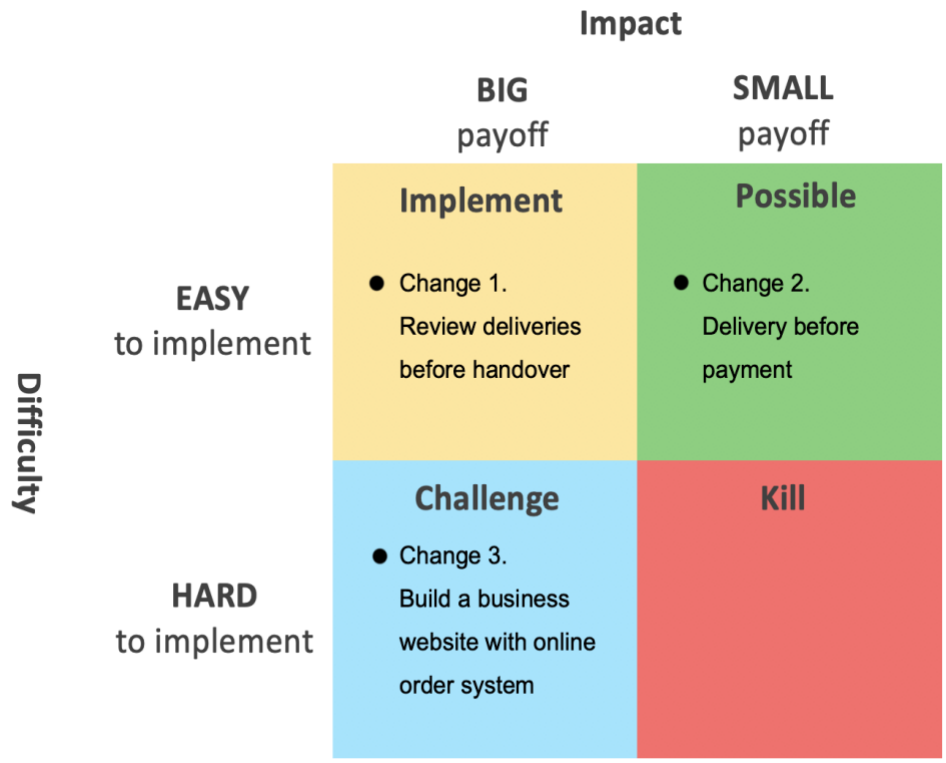
	However, this change is quite expensive.
HEURISTICS OR BPR PRINCIPLES USED	Heuristic 8. Communication Optimization: Inform the status to the customer during the process Heuristic 9. Process Automation: Self-service

5.2 Prioritisation of changes

Change 1 (Review deliveries before handover) is easy to implement because it only requires to repeat some existing activities. It has a big payoff because providing high-quality products is crucial to business success.

Change 2 (Delivery before payment) is also simple to change but it has a small payoff. The reason is it only affects a part of the customers.

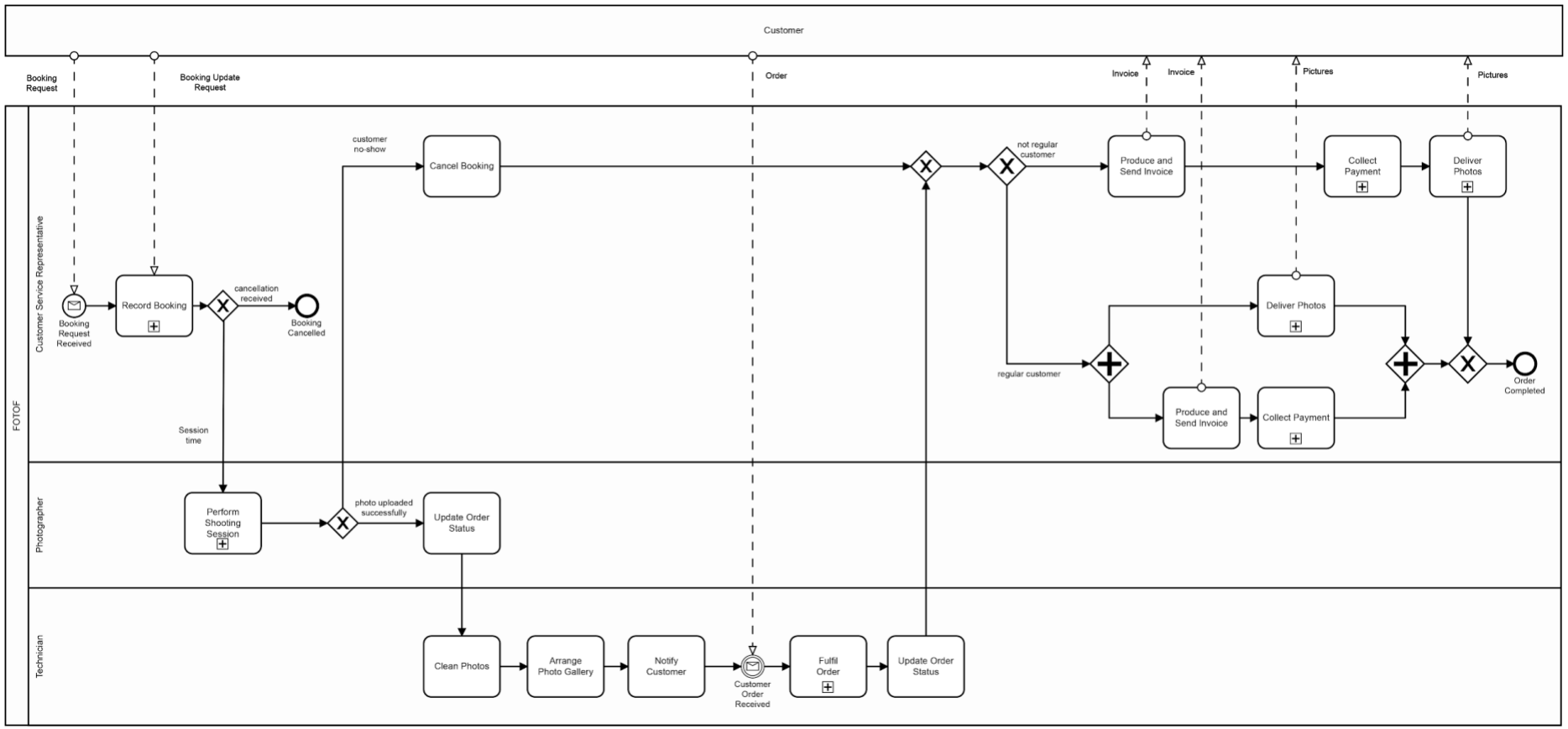
Change 3 (Build a business website with an online order system) will have a huge influence on the business. However, building an online system may be expensive. It also involves multiple staff members and activities. Therefore, it is challenging work.



5.3 To-be process model

5.3.1 Root Process

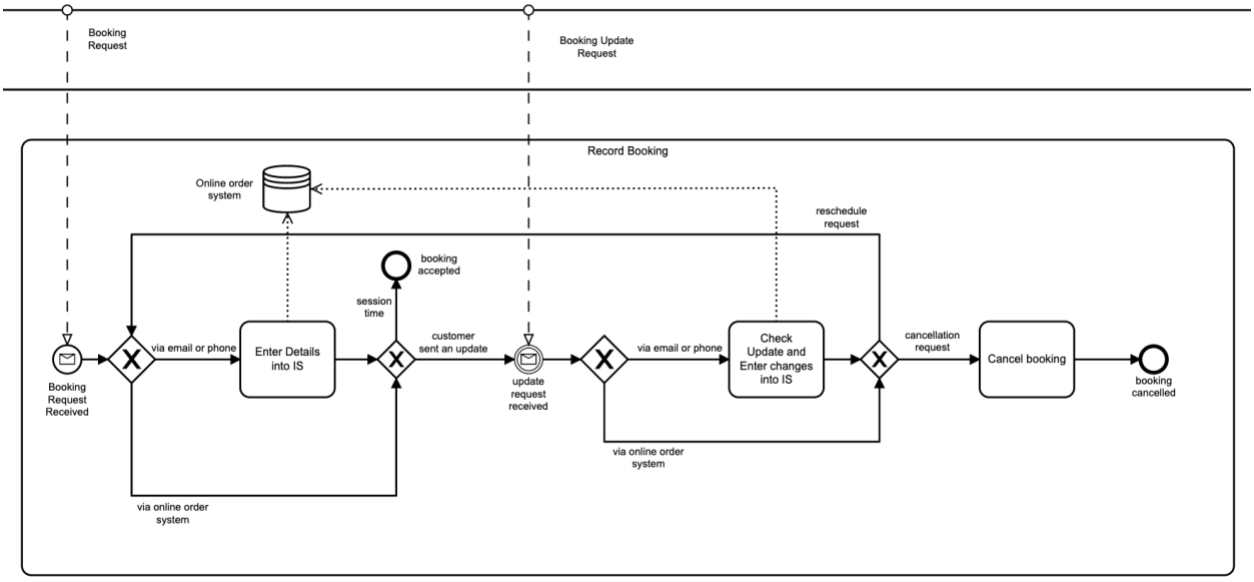
In the root process, we added two “Update order status” activities after photo uploaded successfully and order fulfilled, so the customer can track the process online individually. We also separated the process for regular customers and non-regular customers based on Change No.2.


Customer
Booking Request
Booking Update Request
Order
Invoice
Invoice
Pictures
Pictures
FOTOF
Customer Service Representative
Booking Request Received
Record Booking
cancellation received
Booking Cancelled
customer no-show
Cancel Booking
not regular customer
Produce and Send Invoice
Collect Payment
Deliver Photos
Deliver Photos
regular customer
Produce and Send Invoice
Collect Payment
Order Completed
Session time
Photographer
Perform Shooting Session
photo uploaded successfully
Update Order Status
Technician
Clean Photos
Arrange Photo Gallery
Notify Customer
Customer Order Received
Fulfil Order
Update Order Status

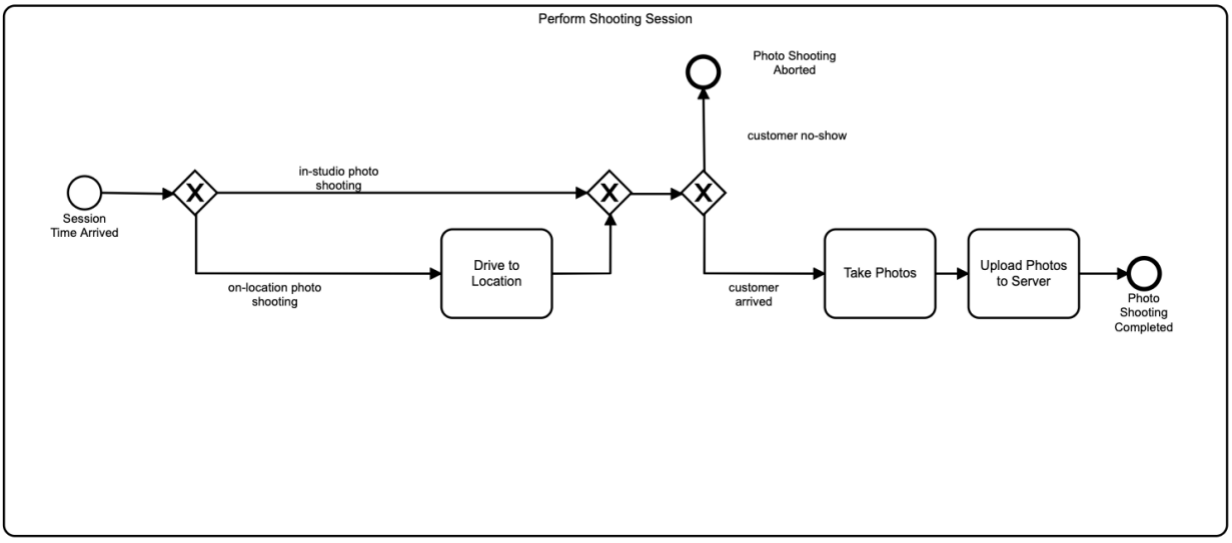
5.3.2 Subprocesses

(1) Record Booking

In this subprocess, we added an online order system based on Change No.3. The customer may make an appointment via phone or email or use the online order system directly. In the former case, CSR updates booking information on the system as well, so the customer is still able to check the status online.

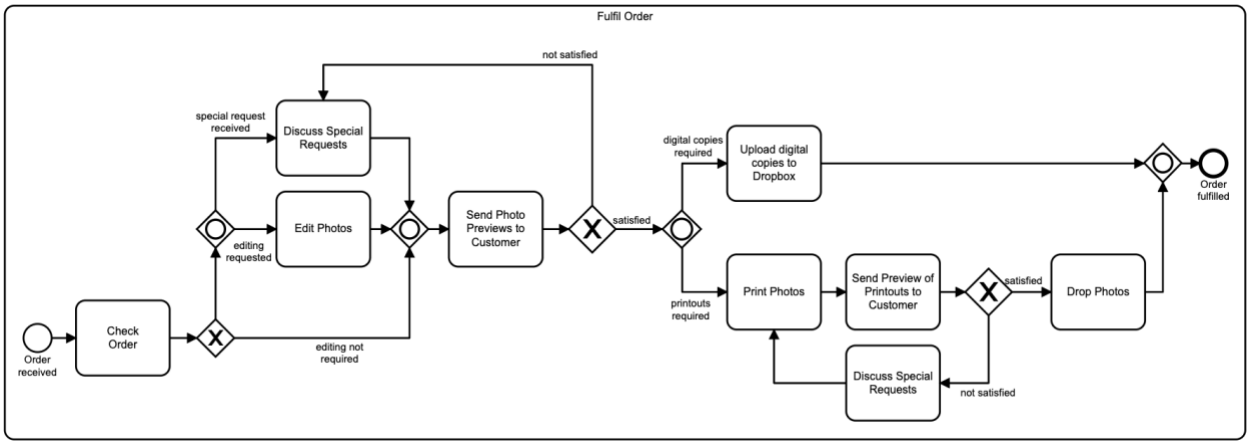


(2) Perform Shooting Session



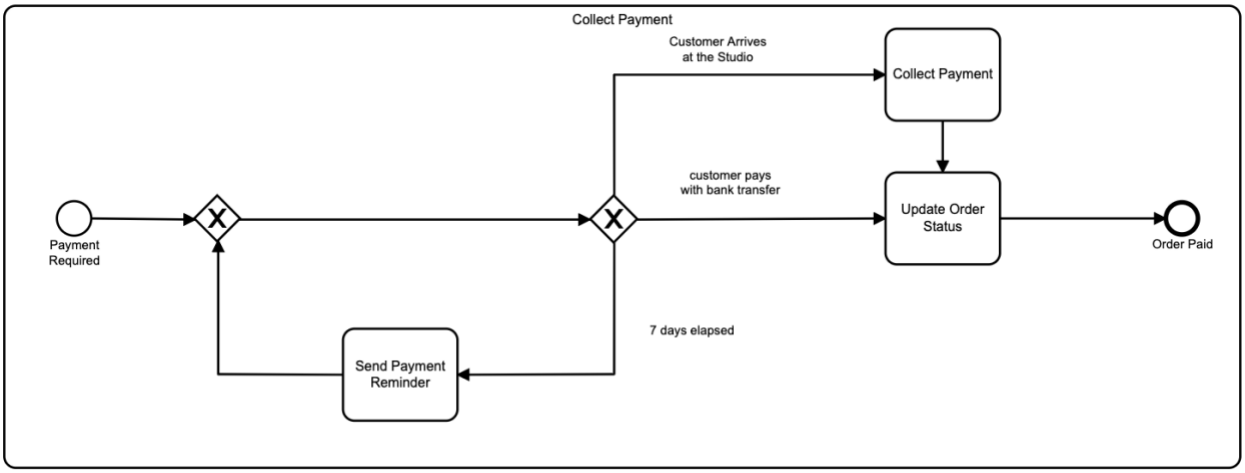
(3) Fulfill Order

Here the customer could preview the deliveries before handover - Change No.1.



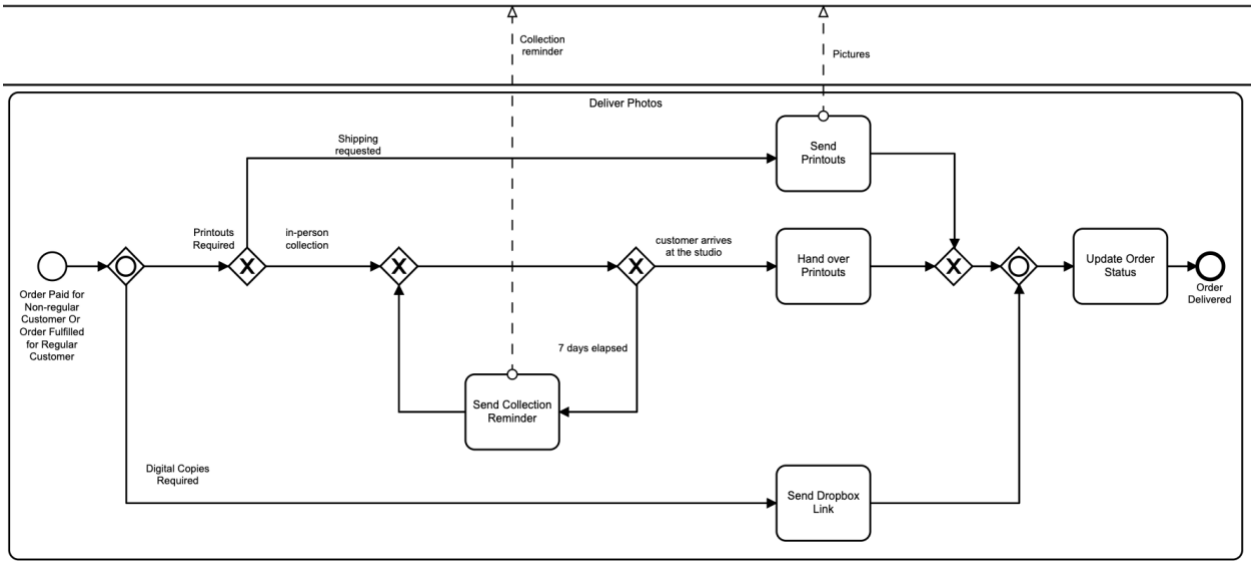
(4) Collect Payment

Updating order status is required after payment.



(5) Deliver Photos

For Change No.2, we changed the event trigger condition so that the customer service representative can delivery photos once they are ready for the regular customers. Updating order status is also required after shipment for Change No.3.


Collection reminder
Pictures
Deliver Photos
Shipping requested
Send Printouts
Printouts Required
in-person collection
customer arrives at the studio
Hand over Printouts
Update Order Status
Order Delivered
Order Paid for Non-regular Customer Or Order Fulfilled for Regular Customer
7 days elapsed
Send Collection Reminder
Digital Copies Required
Send Dropbox Link

6. Conclusion

This report modelled Fotof's business processes. Existing processes encompass all the core business and common exception of the workflow. This is enough to support the company's day-to-day operations, but there are still some potential limitations. First, there is no specified process for obtaining, storing, updating and sharing business data. This may lead to the loss of message delivery between different sub-processes. Second, the company provides personalized photography services, which means quality standards are determined by customers, but there are few ways for customers to monitor the progress of workflow and the quality of photos editing. These problems may lead to a loss or misunderstanding of customer requirements. In the second part, we analysed the issues of Fotol's as-is model, listed potential issues and proposed improvements to three of them: sending goods and bills concurrently, allowing photos preview before editing and building website to automate appointment process. Despite improvement due to these changes, there are still four limitations: 1. lack of quantitative analysis tools, that is, we cannot track and quantify the performance after implementing the redesign model. 2. overlook of the cost and technical difficulty analysis of building the website. 3. Lack of real company data, for example the proportion of different categories of employee, the sales of company, the revenue per year... This may cause great errors in priorities of issues where calculated data comes from assumptions. 4. Lack of feedback from other stakeholders. There are 5 main categories of stakeholders: customer, process owner and operational manager, leader, process participants and external parties; two of which are not consulted; only CSS’s perception were documented among process participants – resulting in incompletion and bias of potential issues. Hence, our future work is to mine and extract issues from the perspective of all the stakeholders, as well as based on real world data, to make precise improvements for the model.