Analysis report for invoicing business process at Onderwijs in Beeld

Introduction

This report was made to convey the current situation of the customer invoicing process for Onderwijs in Beeld. We have gathered information by a list of requirements and interviews with OIB and analyzed these, also providing a visual presentation of the processes and measurables.

This document is meant to showcase the areas of improval for OIB's invoicing processes and give a clear indication on the costs and time of these.
Following this report, there will be an advisory report which will include the design for the invoicing business process of the desired situation.

Requirements and interviews

Onderwijs in Beeld has provided a list of requirements at the start of this project. This includes a list of the tasks and roles they want to have automated:

- An email service, which manages sending out instruction and reminder emails to the customers;
- An invoice managing service, which manages invoices and uploads invoices to MoneyBird;
- An invoice production service, which creates invoices and sends them to the invoice managing service;

Disclaimer: We will not provide technical details for this process, but we will design the business process and flow.

To come to a better understanding, we held interviews with Stijn and Tom about things that were unclear to us.

Interview 1: With Stijn on Google Meets

1. *How does a school start with your product?*
   Answer: They fill out a form on the website, and the moment they've done this, we get a notice.
2. *How do you keep track of the payment statuses?*
   Answer: Moneybird does this.
3. *Which payment method or methods do you want to accept?*
   Answer: Bank transfers
4. *How much back-and-forth communication is required for the customer to get started with the product?*
   Answer: Sometimes on the same day, schools start with a demonstration and on that

same day scan hundreds of books to get started. In other cases, we teach them how to properly use it and lead them.

5. *Do you send out all the materials to get started after the payment or before?*
   Answer: We send materials usually the moment they start, and send the payment later.
6. *What security standards should be used for the payment process?*
   Answer: It is already in the process to be automated

Interview 2: With Tom on Slack

1. *How do you know, and how do you keep track of which customers are going to use the app? How do you know when they filled in the form and how do you keep track of this?*
   Answer: Most customers let us know via email that they want to start with our service. Some customers fill in the form "Order Biebscan" on the website. This form will be called "Order Leesapp" or "Order directly".
2. *How much time do you spend on checking whether the form has been filled in or not?*
   Answer: I don't check this. Every time when a school is added to the app, I also add it into the Excel sheet*****.
3. *How much time do you spend on creating an invoice for a school and uploading this to MoneyBird?*
   Answer: 10 minutes per school.
4. *How much time do you spend on sending the starting package to a school?*
   Answer: Between 10 and 15 minutes per school.
5. *Do you know immediately when a payment has been finalized? Or do you need to check this yourself?*
   Answer: When the invoice is sent in MoneyBird, it will be registered as "pending" and when it has been paid, oftentimes it will be marked as "paid".

***** *Tom also provided with the Excel sheet, which contains information on which package the customer wants, whether QR codes have been sent, whether there is an invoice for the coming year and the price of this, as well as other important school information.*

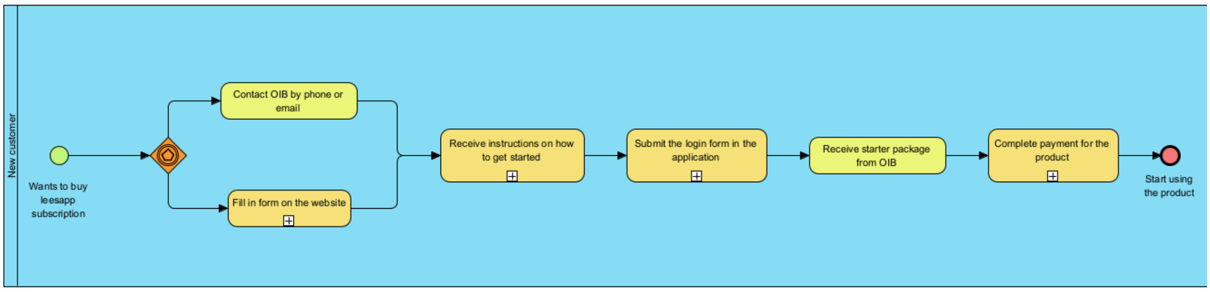
Current situation

These BPMN diagrams illustrate the process of handling new subscriptions for OIB customers, involving both the OIB customer and the OIB back office manager, with interactions with an external system called MoneyBird.

There are three roles currently:

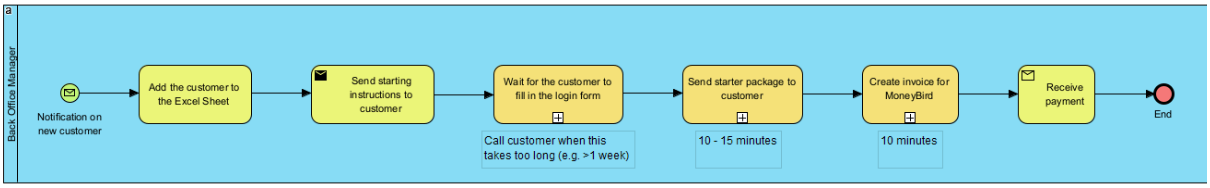
- OIB Customer(Schools): Represents the schools subscribing to the service;
- OIB Back Office Manager: Managing the back office process of the subscription;
- MoneyBird: External system used for invoicing;

Customer subscription process



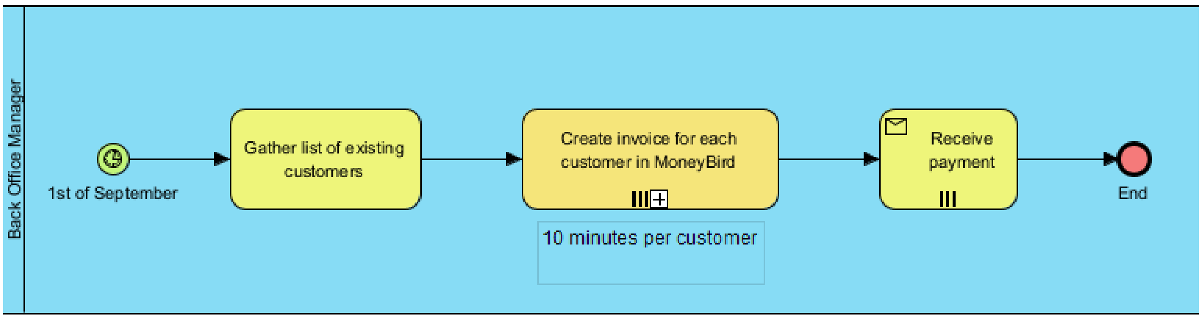
It starts with the customer wanting to buy the product, and the customer has a choice to either contact OIB directly by phone or email, or by filling in the form on the website. Currently, most customers choose to send an email. After they have contacted OIB and provided the required information, they will receive instructions on how to get started with the application. On the first login, they will be prompted to fill in a login form which indicates their first login as a confirmation for OIB that they started using the product. If they have trouble getting started, they can receive extra help from OIB by phone or email. After successfully submitting the login form, they receive a starter package from OIB containing mainly QR codes for students. Finally they receive an invoice and have to complete this. If they fail to pay within a set period of time, they will receive reminders from MoneyBird.

OIB back office manager new customer process



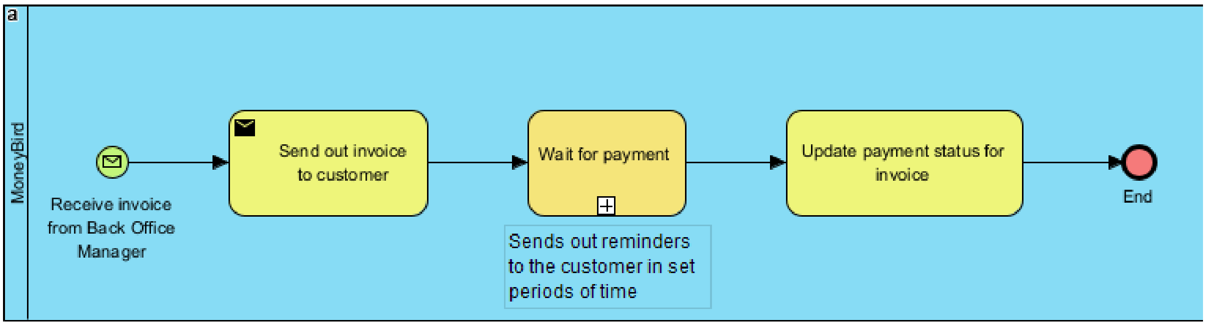
This process starts when a notification is received on a new customer, either by email, phone or the form on the website. The BO manager then adds the customer in an Excel sheet to track the statuses(e.g. packages sent, payment complete). The BO manager sends an instruction email to the customer on how to get started and login for the first time. The customer needs to fill in the login form, and when this takes too long, the BO manager will contact the customer if they are having trouble. After the login form has been successfully submitted, the BO manager sends out a starter package to the customer containing mainly QR codes for students. This task takes around 10 - 15 minutes. The last important task is to create an invoice for MoneyBird, which takes around 10 minutes. After that, the BO manager can check every once in a while if the payment has been completed.

OIB back office manager existing customer invoicing process



On the 1st of September annually, a list of existing customers is gathered and the BO manager creates an invoice for each customer, which takes around 10 minutes per customer. After this, every once in a while the BO manager checks on MoneyBird which schools have completed their payment.

MoneyBird invoicing process



This process starts when MoneyBird receives an invoice from the BO manager. The invoice is documented in the system and sent out to the customer by email. Periodically, MoneyBird will send out a payment reminder to the customer if the payment has not been completed. When the payment is received, MoneyBird will update the payment status for the specific invoice.

Measurables

The existing processes can be measured by the time spent by the back office manager. Indications with '~' means that this is speculated, other indications are given by Tom himself.

New customer process

- Adding the customer to the Excel Sheet(~2 minutes)
- Sending the starting instructions to the customer by email(~5 minutes)
- (if needed, call with the customer to help them to get started, which could take ~10-30 minutes)
- Sending out the starter package to the customer(10-15 minutes for packing) + 30 minutes sending out in bulk
- Creating the invoice in MoneyBird(10 minutes)
- Check payment status

Total time spent: *Between ~57 and ~92 minutes, without packages = ~47-57 minutes*

Existing customer invoicing process

- Gather list of existing customers
- Create invoice for each customer(10 minutes per customer, with currently ~140 customers)
- Check payment status

Total time spent: *~23 hours and 20 minutes*

OIB has indicated that they want to grow to around 2000 schools in a span of 5 years time, with the current processes this would mean an average of 372 new customers per year.

If the process of adding new customers would be calculated in the most efficient way, this would mean 12 *days and 3 hours annually* spent on the invoicing of adding new customers. By the end of the 5 years, with 2000 customers. The process of the invoicing would take *13 days, 21 hours and 20 minutes every year*.

Key performance indicator

To help OIB understand and track how well the company will adhere to the goals of this project, we have created a key performance indicator, which contains the strategic goal, audience, targets and performance and more. We have formed this KPI by the examples of Bernard Marr, because his example is coherent, uncomplicated and it does not seem to go against the purpose of KPIs.

KPI Name
Invoice Automation Time Profit

Strategic Goal
Reduce time spent on the invoicing process.

Audience / Access
Tom Buunk, Stijn Dautzenberg and the future back office manager.

Key Performance Question
How much time is saved with the automation of the invoicing processes?

How will / won't this indicator be used
It will be used to measure the time saved by implementing the automation of the invoicing processes. It will not be used to measure money earned/saved this way and it will also not account for the time spent on sending or packing packages.

Data collection method
The time spent by the new automated processes can be measured by the to-be-implemented invoice creation and managing services. The time spent on building these services can be measured with Clockify by working hours.

Formula
Tnw(days) = time spent annually on new customers
Tex(days) = time spent annually on existing customers
Tim(days) = time spent implementing the automation services
Tas(days) = time spent by the new automation services annually.
Invoice Automation Profit (days) = Tnw + Tex + Tim - Tas

Target / Performance threshold
Spend less than 10% time on invoicing processes by the end of 2025 compared to the current situation (~140 customers)

Conclusion

With the available information, diagrams and analyses, we have created a key performance indicator which will help in the future to measure how effective this project has been and how much benefit this has applied for the company. Next up will be the advisory report which will contain more information on the design and focuses on the desired situation.