Reengineering the Customer Service Process at ACME: A Teaching Case

Overview

"From smoothies, soups, and salsas to puddings, dips, and batters – we make blending limitless!" is the company slogan of ACME, a small household appliances company. ACME mainly focuses consumer blenders in the premium segment and they pride themselves with selling consumer products made in Germany. They compete with big players in the European market and differentiate themselves by a unique user-experience: some of their devices are equipped with a touchscreen and users benefit from an easy to use user interface. Sustainability and transparency are core values for ACME. The company does not maintain any direct sales channels and is committed to specialist shops dedicated for enthusiasts.

ACME considers customer service essential for customer retention and they are committed to customer-friendly service and communication. As such, they have service counters for their customers at their headquarters in Nuremberg. With about 50 employees, it is sometimes hard for ACME to escape day-to-day business and to have a strategic look onto their operations.

The household appliances market

In Germany, revenue of the household appliances market is expected to grow with a compound annual growth rate of about 1.5% from 2021 to 2025. In 2021, the revenue is expected to be around €9.963 million. Most of the growth is driven by the introduction of connected smart appliances and energy efficient technologies. The household appliances can be divided into two segments: small appliances and major appliances ("white goods").

Household appliances are dominantly sold via brick and mortar stores (e.g., department stores, hypermarkets, supermarkets). However, this is slowly changing and consumers increasingly buy their appliances online. E-retailers such as Amazon or Otto are the biggest beneficiaries of this shift in consumer behavior.

Tough times at ACME

The global market for blenders is fragmented in nature. While international players in the market are concentrating on extending their footprint, small and regional players face difficulties competing with them based on cost. Therefore, ACME decided to take on a focus on differentiation, placing particular attention on customer satisfaction. A good after-sales service is one area where they would like to excel to ensure a high customer satisfaction. As a consequence of this customer-first approach, their products have a warranty of 5 years. However, ACME acknowledges that their customer service process is far from ideal and that they quickly need to improve in order to retain their customer base.

Therefore, ACME aims at analyzing their processes in order to identify weaknesses in their process execution. ACME has extracted data from their ERP system.

The Event Log

In order to further analyze their customer service process, ACME created an event log consisting of the case ID, the activity, and the timestamp. Additionally, the event log contains three contextual attributes: Repair_in_time_5d, device type, and service point. A sample of the event log is displayed in the following table.

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Table 1 Example Event log

CASE_ID	ACTIVITY	TIMESTAMP	REPAIR_IN_TIME_5D	DEVICETYPE	SERVICE-POINT
Case10	Creation	2018-01-02 13:39:47.0000000	0	AB52	E
Case10	Letter	2018-01-05 00:00:00.0000000	0	AB52	E
Case10	DeviceReceived	2018-01-05 16:45:34.0000000	0	AB52	E
Case10	StockEntry	2018-01-17 00:00:00.0000000	0	AB52	E
Case10	InDelivery	2018-01-17 00:00:00.0000000	0	AB52	E
Case10	NoteWorkshop	2018-01-17 07:37:19.0000000	0	AB52	E
Case10	Completed	2018-01-17 09:34:32.0000000	0	AB52	E

To better understand the event log, ACME provided an explanation of each attribute and a description of each process activity.

Attributes

- CASE_ID: Unique Case Identifier of the Service order
- ACTIVITY: Label of the process step (see description of process)
- TIMESTAMP: Time when the activity was finished
- REPAIR_IN_TIME_5D: Flag that indicates if the service level was met (i.e. repair completed within 5 days)
- DEVICETYPE: Unique identifier for each product (the first two letters indicate the device type)
- SERVICEPOINT: Unique identifier for the service partner responsible for the repair

Description of the process activities

- Creation: A service order has been created by the hotline or on-site at the service counter
- Letter: The letter to the customer has been printed
- DeviceReceived: Parcel with the customer's device has been received
- StatusRequest: Customer has requested a status update (by phone)
- Completed: Repair of the device has been completed and it is ready for shipping
- Transmission: Estimate of the repair costs has been sent to the customer
- Approved: Cost estimate has been approved by the customer
- NoteHotline: The hotline has made a remark in the service order
- NoteWorkshop: The workshop has made a remark in the service order
- StockEntry: Used spare parts have been booked as taken from the warehouse
- InDelivery: Device has been sent to customer
- Freeticket Cust/ Freeticket Comp: can be ignored/legacy

Task and Deliverables

The head of customer service has therefore started a call for proposals to consulting companies to analyze and improve their service/repair/maintenance process. Given the underlying event log, your job as a consulting team is to analyze the data in order to overcome the challenges described above.
The following resources should be used for the case study:

- Event log of customer service process
- Process Mining tool (Celonis)

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- Additional (Internet) sources to gather further information if necessary (e.g., about to-be customer service processes)
- Optional: Further data analytic tools for additional analysis (e.g., R or Microsoft Excel)

Task	Deliverables
(1) Final Presentation	
Analyze the event log provided with Celonis by creating a dashboard. Your presentation should contain the following: 1) An overall description of your project and the **objectives**, as well as the project milestones. 2) Briefly **describe the market** ACME is competing in and outline characteristics of a customer service process for a home appliance vendor 3) Create a **process model** (e.g., in BPMN with Camunda Modeler or just with PowerPoint) of a B2C service repair process (i.e., the customer has a broken device and wants it to be fixed) 4) Define common **key performance indicators** for a service process. 5) Gather some **descriptive information** about the event log (e.g., number of cases, number of events, happy path, throughput time,...). 6) Get a deeper look into the event log and the underlying process and derive **findings**, e.g., in regards to the service point or device type. 7) Make a **business case calculation** for converting the proposed improvement potentials (cost vs. savings) 8) Please provide some **possible solutions** for the detected issues in the process and include some possible **further steps** in your outlook. 9) Show a **roadmap** on how ACME can implement the solution. 10) Please save your created dashboard and include at least 5 minutes of **live demo** in your presentation. Structure your final presentation based on the **pyramid principle** (Barbara Minto), where necessary. Please feel free to make assumptions where necessary.	Presentation of 15 minutes (including 5 minutes of live demo) pre-recorded video
(2) Slide deck	
Please hand in the slide deck of your presentation.	.pptx or .pdf slide deck
(3) Declaration	
Declaration of task distribution signed by each team member (no special format required)	

General remarks

There is no exact right or wrong. Grading will be mainly based on your efforts, creativity and presentation of your results.
- Presentation: Remember, you are consultants and therefore beautiful or rather professional looking slides are expected. Be enthusiastic in the presentations, you want to convince us that you can help ACME with your ideas.
- Creativity: Feel free to give your consulting company a name, give team member roles (e.g., partner, business consultant, technical consultant etc.). You do not have to (and you should not) use the FAU slide master. Surprise us with your ideas.
- Effort: Keep in mind that ACME as every other customer is looking for added value. Do not forget to always focus on that when presenting ideas for change/improvement and when conducting your analysis. You want to convince us that you are the right partner for driving this process improvement initiative.

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