Order-to-Cash Process Analysis

With Celonis

Executive Summary

WIZADO, Inc. is a large online B2B distributor seeking to streamline a fast and reliable Order-to-Cash process to ensure customer satisfaction and revenue. The goal of this process analysis using Celonis is to reduce throughput time for credit checks and assess the potential value in adopting a company-wide process mining initiative. Key findings revealed that credit check process adds to throughput time and overall monetary potential revenue savings from streamlining the approve credit check and change price process is € 435.3M. The report recommends analyzing how/why undesired credit checks occur in consult with associated business units, outsourcing credit checks, installing a process mining team in the BI group, and adopting a company-wide roll-out of Celonis process mining.

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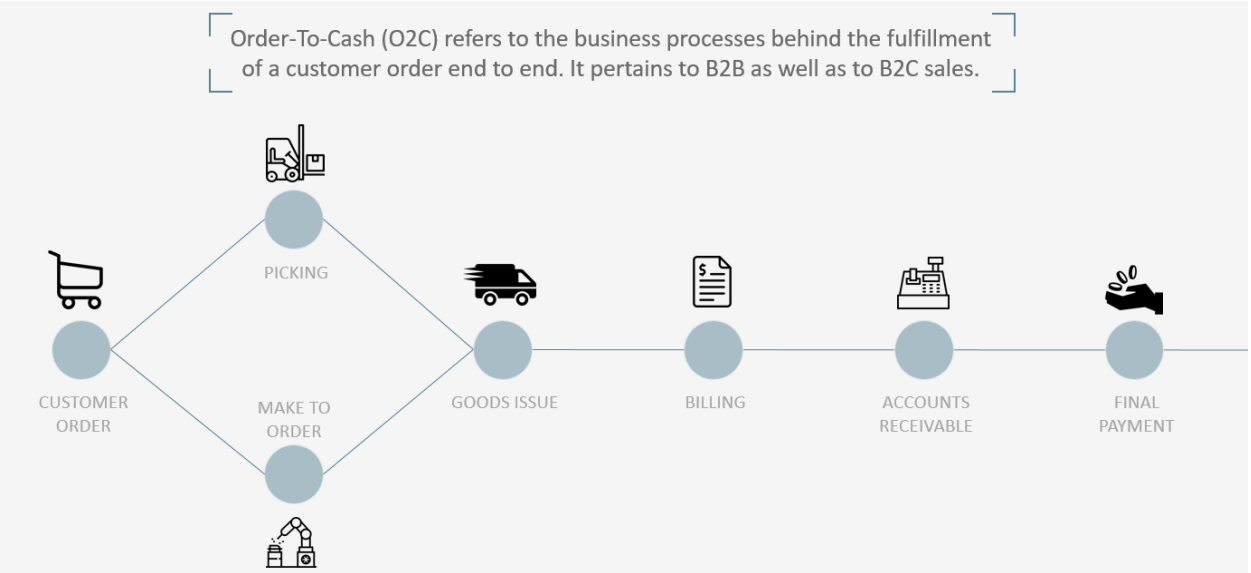
Business Understanding

WIZADO, Inc. is a large online Business-to-Business (B2B) distributor seeking to ensure customer satisfaction and revenue. WIZADO recently acquired Celonis to incorporate process mining in the Order-to-Cash (O2C) end to end process in the fulfillment of customer orders with B2B and B2C sales. Part I of this report will examine WIZADO's O2C process analysis with a prepared basic analysis in Celonis. Potential inefficiencies and root causes will be explored to secure fast and reliable O2C process. Part II of this report will examine credit management process with a newly created analysis dashboard in Celonis. The goal from this section of analysis is to explore ways to reduce throughput time for credit checks and minimize the amount of bad debt expenses. Core KPIs such as credit check rate and credit check denial rate will be examined. Part III will provide business value predictions that will highlight the overall monetary potential for WIZADO in a company-wide process mining initiative.

Figure 1. Standard Order-to-Cash Process



Assumptions

This report is premised on the following business assumptions:

1. All credit checks are performed in-house.
2. All Net Values are in Euros.
3. *Order to Cash Challenge* file containing 7 whitelisted items (hidden from our view) account for the difference of 3,000 in total number of cases (Figure 2, 3).
4. The hidden whitelisted items also account for the differences in all other KPI numbers (Figure 4).
5. Net Sales Order Value for denied credit checks represent earnings potential.

Figure 2. *Order-to-Cash Challenge* vs. Group 1 generated with different number of cases

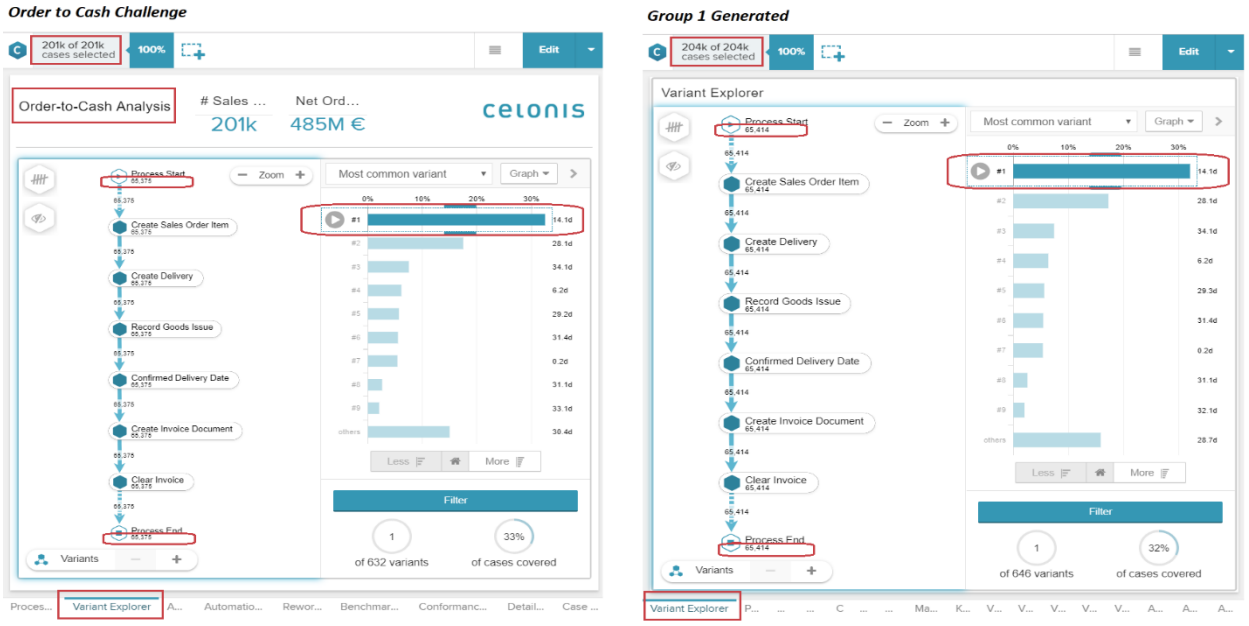


Figure 3. *Order-to-Cash Challenge* vs. Group 1 generated with whitelisted items hidden

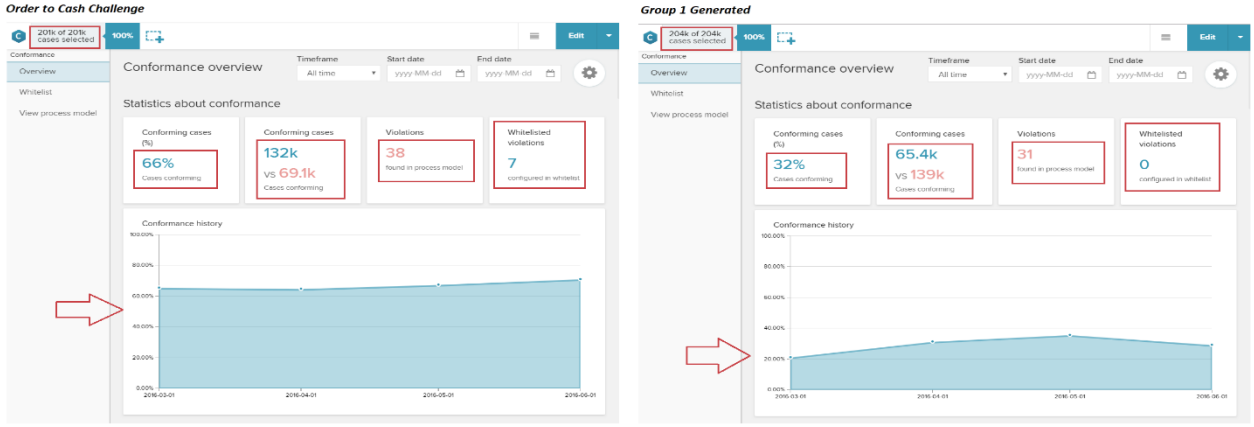
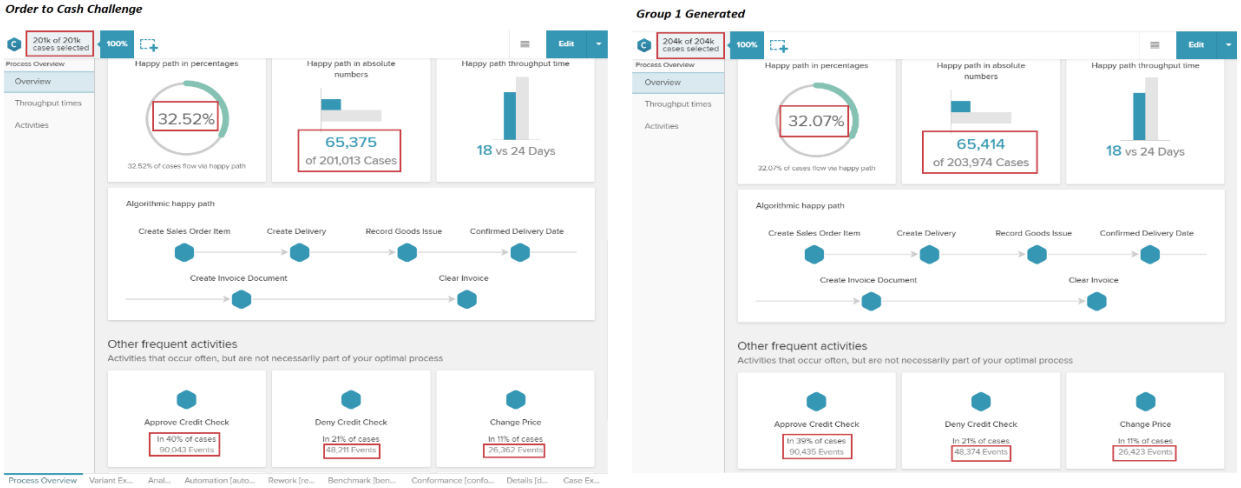


Figure 4. *Order-to-Cash Challenge* vs. Group 1 generated with different KPI numbers



In the interest of consistency regarding these discrepancies in counts and numbers, this analysis will be entirely based on the Group 1 Generated values that exclude the hidden whitelisted items, starting from a total case count of 204K.

PART I. ORDER-TO-CASH PROCESS ANALYSIS

1. POTENTIAL INEFFICIENCIES IN THE PROCESS

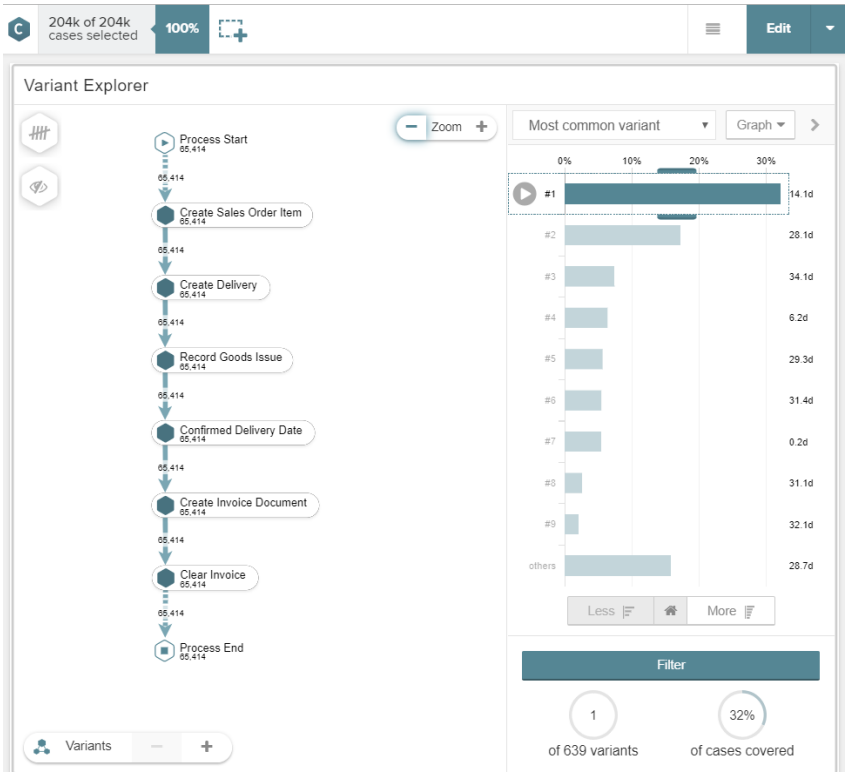
Since the happy path below demonstrates the ***standard*** order-to-cash (O2C) process, any activity that is outside the happy path could be considered a potential inefficiency.

Happy Path

The happy path is made up of 6 different activities (in green font below) with an 18.5-day average throughput time and represents 65,414 out of 203,974 documented cases at 32% conformance. 65,414 represents the 1st (or most common) variant. Additionally, the happy path represents 1 out of 766 different possible variants.

1) Create Sales Order Item
2) Create Delivery
3) Record Goods Issue
4) Confirmed Delivery Date
5) Create Invoice Document
6) Clear Invoice

Figure 5. Happy path for most common variant



Note: Due to discrepancies in the "process overview" tab, this analysis will instead derive all figures using tabs generated via the analyst role. This ensures that all cases are included in the examination.

Activities Outside the Happy Path

The following activities are performed outside of the O2C happy path and can be considered potential inefficiencies in the process (ordered by prevalence). The first 20 variants include the activities in red and represent 94% of cases.

1) Approve Credit Check (80,458 representing 39.4% of cases – 596 variants)
2) Deny Credit Check (43,320 representing 21.2% of cases – 455 variants)
3) Change Price (22,488 representing 11.0% of cases – 331 variants)
4) Set Reason for Rejection (12,984 representing 6.4% of cases – 1 variant)
5) Availability Check Failed (7,532 representing 3.7% of cases – 129 variants)
6) Change Route (1,332 representing 0.7% of cases –106 variants)
7) Create Returns Delivery for Order (1,274 representing 0.6% of cases – 101 variants)
8) Change Plant (51 representing <0.1% of cases – 27 variants)
9) Cancel Reason for Rejection (46 representing <0.1% of cases – 11 variants)
10) Change Material (19 representing <0.1% of cases – 7 variants)
11) Cancel Goods Issue (13 representing <0.1% of cases – 9 variants)
12) Change Reason for Rejection (2 representing <0.1% of cases – 1 variant)

2. Findings and Explanations

Top 5 Activities/Findings Outside the Happy Path

Happy path activities are in green font, while non-happy path activities are in red font.

1) *Approve Credit Check* – occurs between 1. Create Sales Order Item and 2. Create Delivery
2) *Deny Credit Check* – occurs between 1. Create Sales Order Item and *Approve Credit Check*
3) *Change Price* – occurs between 1. Create Sales Order Item and 2. Create Delivery
4) *Set Reason for Rejection* – occurs between 2. Create Delivery and Process End
5) *Availability Check Failed* - occurs between 4. Confirmed Delivery Date and Process End

Of the above 5 findings, details and explanations for the top 3 will follow. The conformance tab reports 31 violations deviating the happy path process (Figure 6). The top 3 violations are selected, not only because they represent the highest percentage, but because they also coincide as the top 3 non-happy path activities outlined above in red.

Figure 6. Conformance tab showing 31 violations

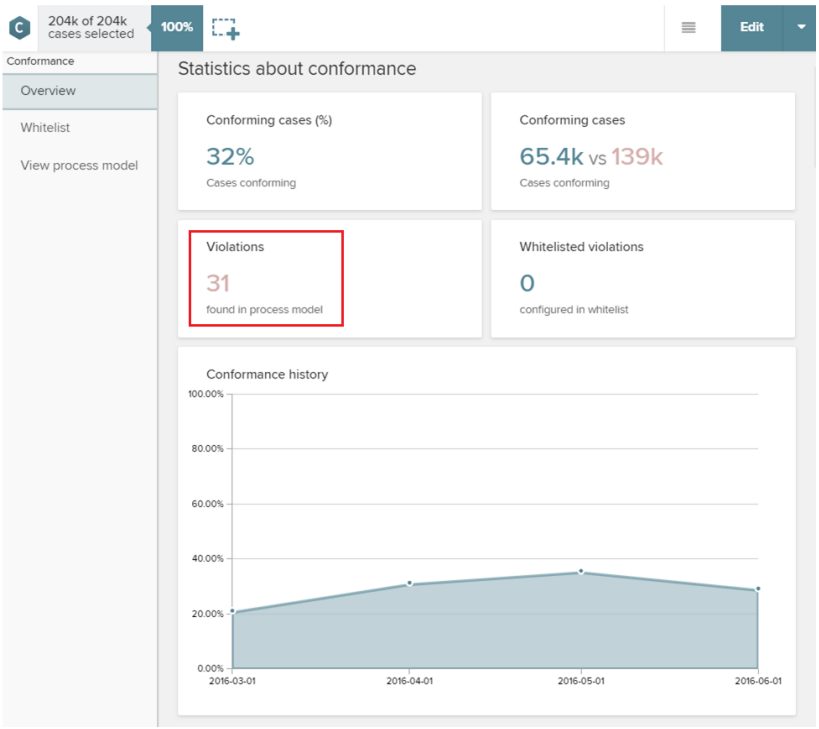
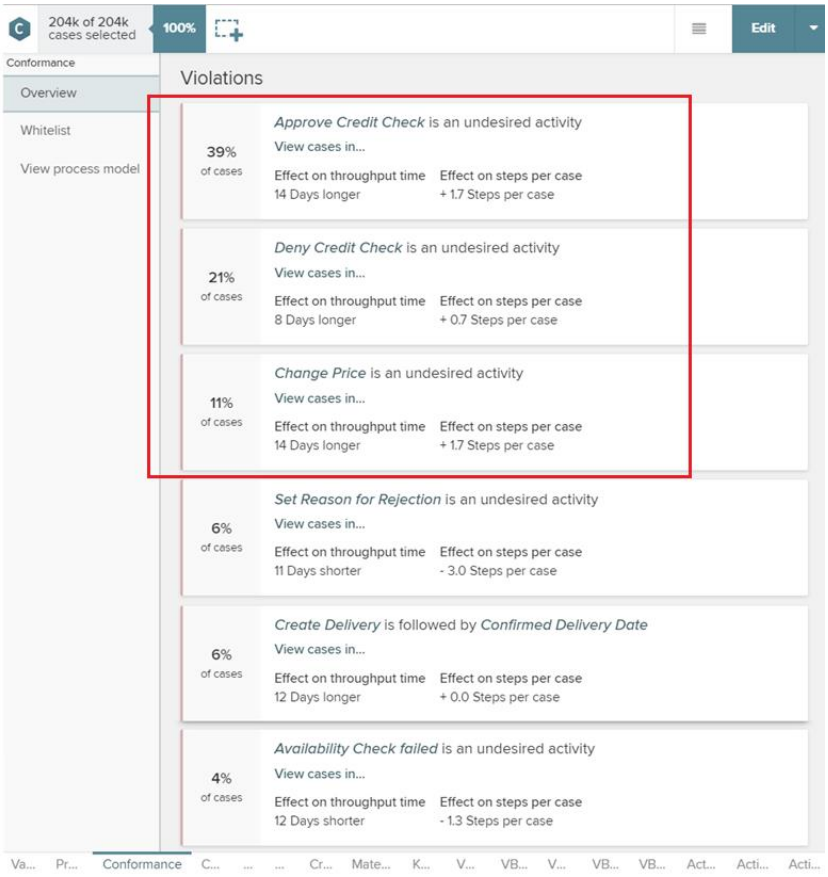


Figure 7. Conformance violations



The happy-path throughput time is 18.5 days and contains 6 steps (activities). The violations add the specified days and steps to the happy path throughput days and steps.

1) *Approve Credit Check* is an undesired activity (39% of cases)
    - effect on throughput time – adds 14 days
    - adds 1.7 steps per case
2) *Deny Credit Check* is an undesired activity (21% of cases)
    - effect on throughput time – adds 8 days
    - adds 0.7 steps per case
3) *Change Price* is an undesired activity (11% of cases)
    - effect on throughput time – adds 14 days
    - adds 1.7 steps per case

3. Root Causes

1) Approve Credit Check (80,458 representing 39.4% of all cases – 596 variants):

Figure 8. Processes flowing through approved credit check

Table 1 represents 100% of the activities and 96.1% of the connections. Green font represents happy path activities and red font represents non-happy path activities. Create Sales Order Item, Deny Credit Check and Create Delivery are the three inputs that lead to (a.k.a. are the root causes) of Approved Credit Check.

Table 1. All inputs and outputs to the approve credit check activity

Inputs			Outputs	
Create Sales Order Item	52,205		Create Delivery	68,020
Deny Credit Check	18,581		Change Price	4,744
Create Delivery	5,664		Record Goods Issue	6,112
Approve Credit Check	2,264	**Approve Credit Check**	Change Route	726
Change Price	1,460	**80,458**	Deny Credit Check	464
Change Route	187		Availability Check Failed	253
Record Goods Issue	73		Confirmed Delivery Date	84
Availability Check Failed	19		Change Material	2
Change Plant	4		Change Plant	17
Create Invoice Document	1		Clear Invoice	34
	80,458		Create Returns Delivery for Order	1
			Create Invoice Document	1
				80,458

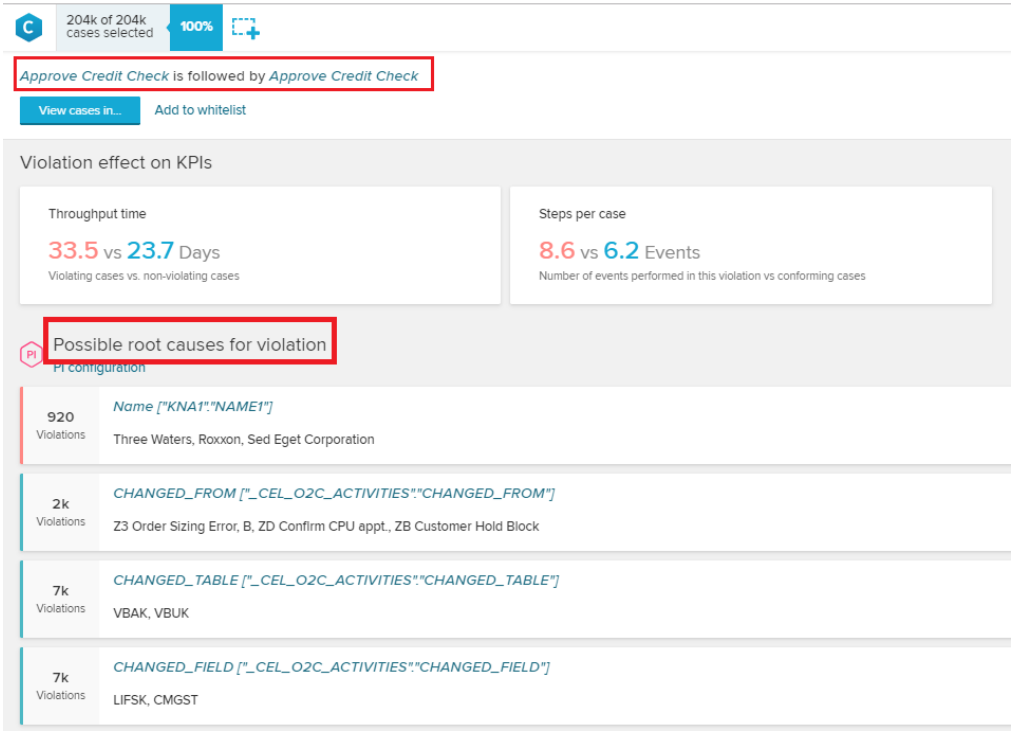
The following customers, material groups, and materials represent the highest net order value from each category affected by approved credit check activity.

Customer	# Sales Order Items	Net Order Value
Three Waters	9,707	27,034,581
Roxxon	8,377	24,448,535

Material Group	# Sales Order Items	Net Order Value
Jelly Beans	62,276	176,607,394

Material	# Sales Order Items	Net Order Value
Glycosides	407	5,101,917
Other Offset Printing Machinery	372	3,414,742
Electric Accumulators	233	3,248,958
Electric Smoothing Irons	496	3,078,390
Life Boat	120	3,036,186

Figure 9. Possible root causes for undesired *Approve Credit Check* identified by Celonis



2) Deny Credit Check (43,167 representing 21.5% of cases – 349 variants):

Figure 10. Processes flowing through denied credit check

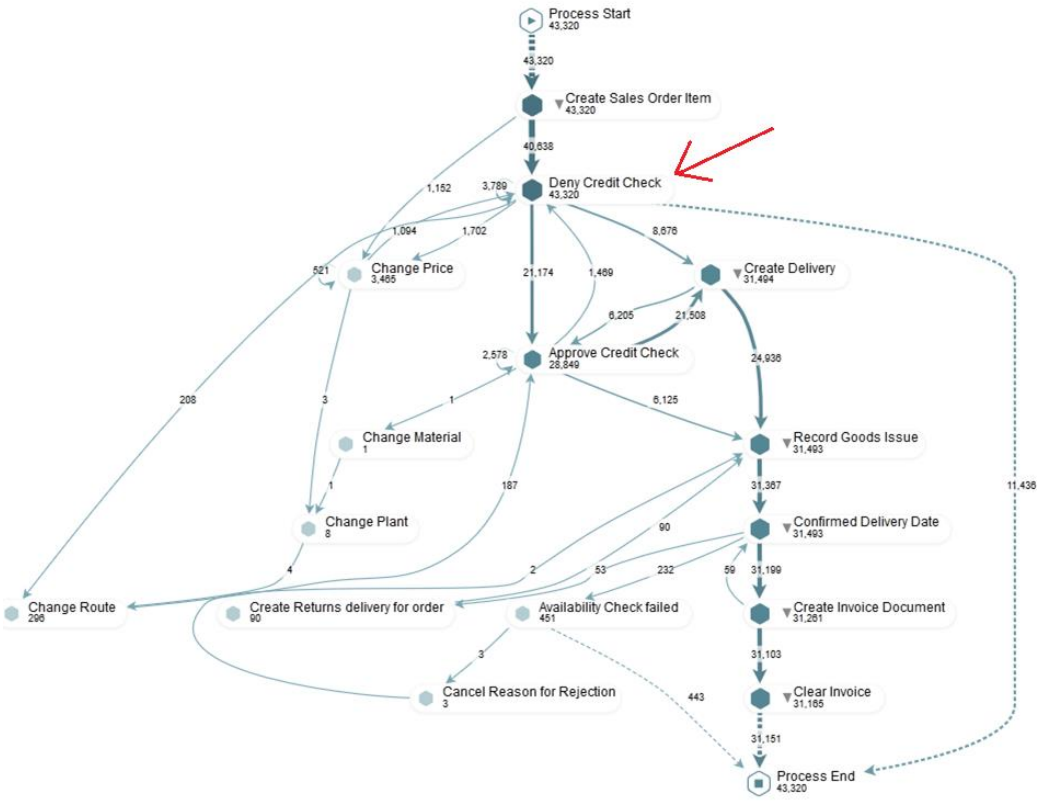


Table 2 represents 100% of the activities and 98% of the connections. Green font represents happy path activities and red font represents non-happy path activities. Create Sales Order Item, Approved Credit Check and Change Price are the three inputs that lead to (a.k.a. are the root causes) of Deny Credit Check.

Table 2. All inputs and outputs to the denied credit check activity

Inputs				Outputs	
Create Sales Order Item	40,630			Approve Credit Check	21,174
Approve Credit Check	1,435			Process End	11,444
Change Price	1,086			Create Delivery	8,672
Change Route	72	**Deny Credit Check**		Deny Credit Check	1,698
Create Invoice Document	70	**43,320**		Change Route	201
Create Delivery	23			Availability Check Failed	124
Clear Invoice	1			Change Plant	4
Confirmed Delivery Date	1			Record Goods Issue	2
Availability Check Failed	1			Create Invoice Document	1
Deny Credit Check	1				**43,320**
	43,320				

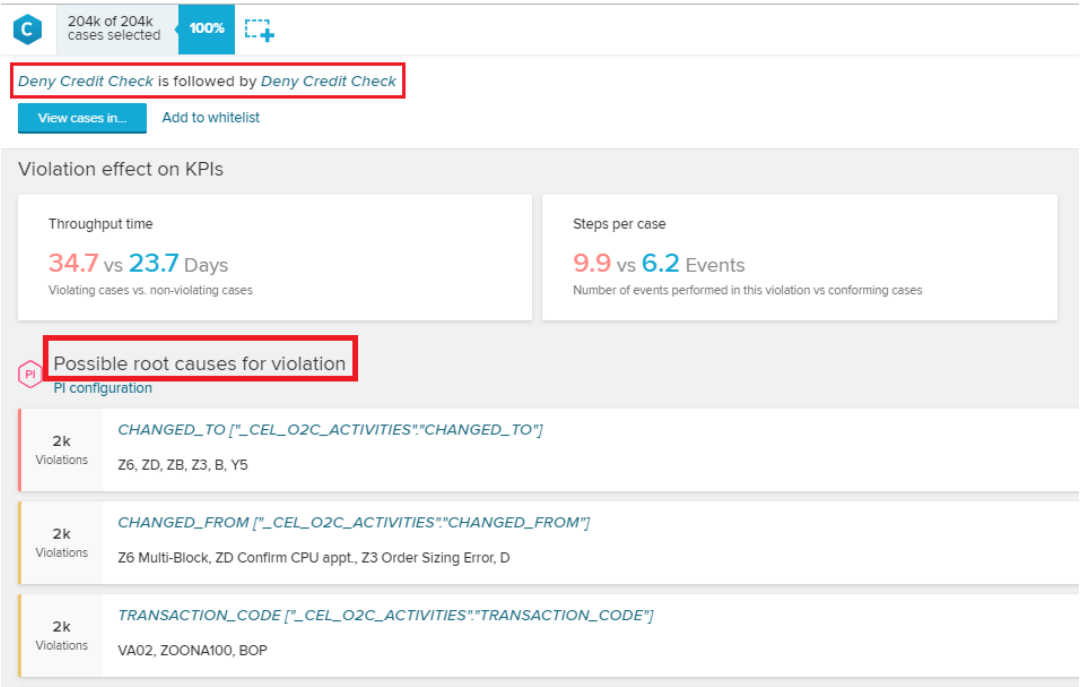
The following customers, material groups, and materials represent the highest net order value from each category affected by denied credit check activity.

Customer	# Sales Order Items	Net Order Value
Three Waters	9,131	26,100,879
Roxxon	8,197	22,923,065

Material Group	# Sales Order Items	Net Order Value
Jelly Beans	35,333	93,346,028

Material	# Sales Order Items	Net Order Value
Glycosides	175	2,339,173
Public Addressing System	53	1,834,674
Life Boat	49	1,512,292
Electric Smoothing Irons	196	1,336,709
Other Offset Printing Machinery	161	1,239,605

Figure 11. Possible root causes for undesired *Deny Credit Check* identified by Celonis



3) Change Price (22,450 representing 11.2% of cases – 269 variants):

Figure 12. Processes flowing through change price

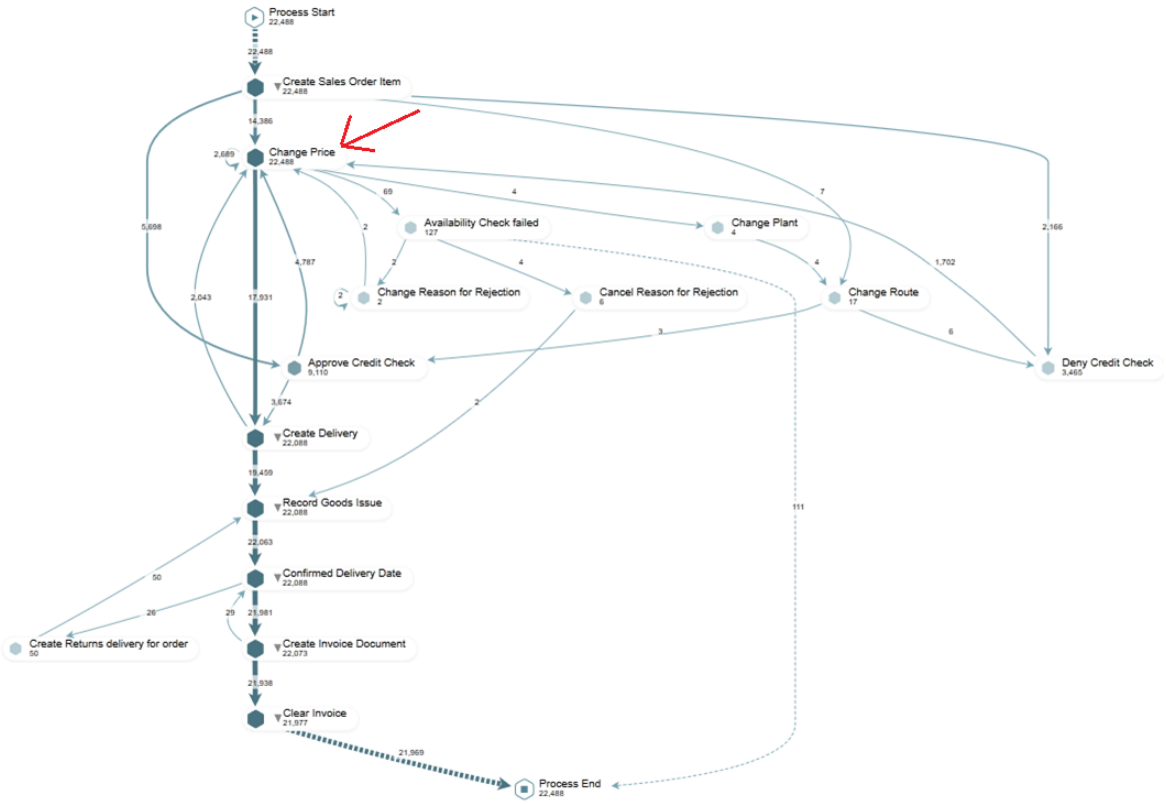


Table 3 represents 100% of the activities and 94.7% of the connections. Green font represents happy path activities and red font represents non-happy path activities.

Table 3. All inputs and outputs to the change price activity

Inputs			Outputs	
Create Sales Order Item	14,386		Create Delivery	17,931
Approve Credit Check	4,636		Record Goods Issue	1,846
Create Delivery	1,819		Approve Credit Check	1,410
Deny Credit Check	1,508	**Change Price**	Deny Credit Check	945
Create Invoice Document	69	22,488	Process End	213
Confirmed Delivery Date	55		Availability Check Failed	65
Availability Check Failed	12		Clear Invoice	13
Change Reason for Rejection	2		Create Invoice Document	55
Change Route	1		Change Route	4
	22,488		Change Plant	4
			Cancel Reason for Rejection	2
				22,488

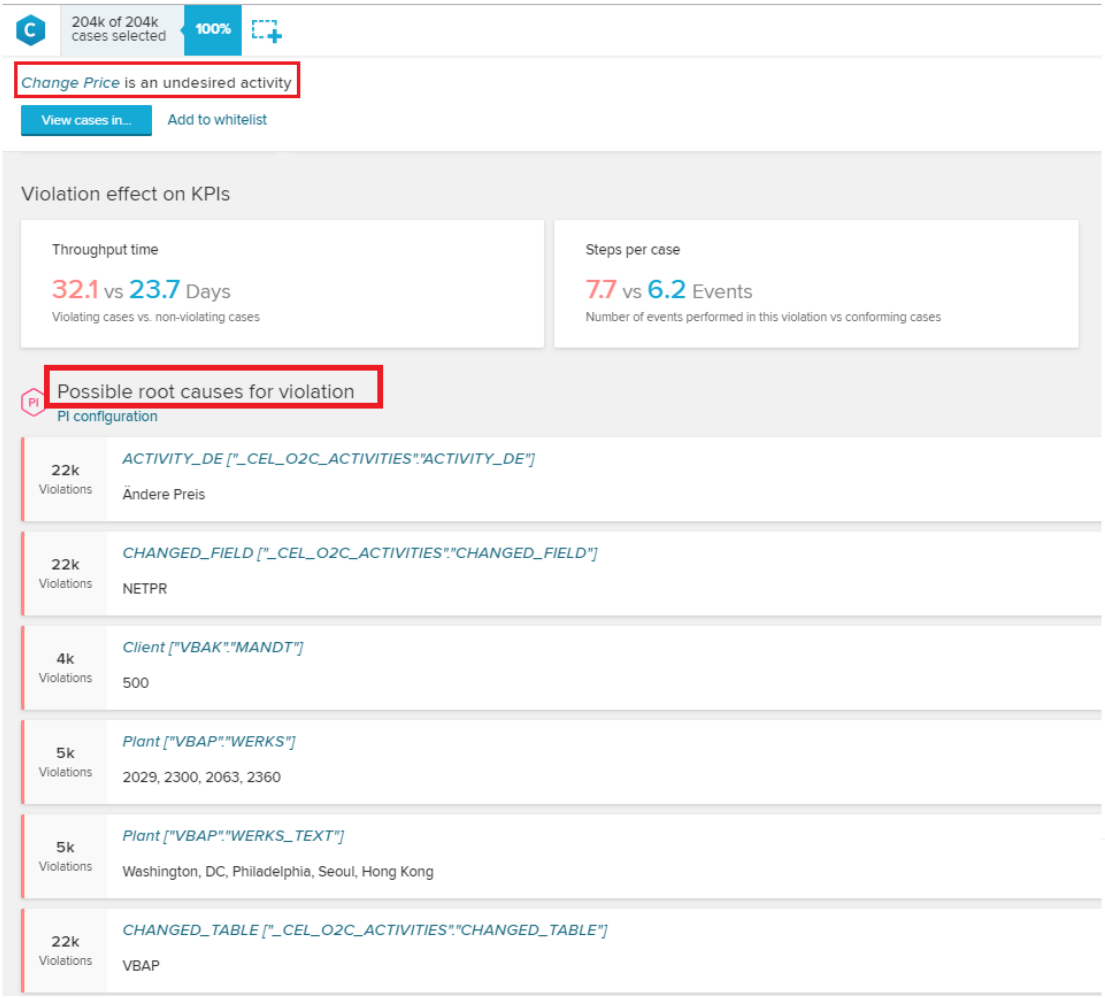
The following customers, material groups, and materials represent the highest net order value from each category affected by change price activity.

Customer	# Sales Order Items	Net Order Value
Three Waters	805	2,264,459
Gringotts	784	2,063,620
Roxxon	643	2,004,484
Input, Inc.	351	1,340,581
Nulla At Inc.	116	1,073,370

Material Group	# Sales Order Items	Net Order Value
Jelly Beans	20,579	49,326,484

Material	# Sales Order Items	Net Order Value
Proximity Cards and Tags	1,028	3,102,721
High Speed Disel	1,018	2,340,750
Glycosides	124	2,167,929
Cardamoms	676	1,876,882
Transistors	910	1,641,170

Figure 13. Possible root causes for undesired activitiy *Change Price* identified by Celonis



When the three “outside happy path” activities above are removed, the case count drops from 203,974 to 96,316, a 53% reduction (Figure 14, 15). In addition, the total variant count decreases from 766 to 100 and brings all remaining cases within the 18.5-day range of the happy path.

Note: Figure 14 and 15 visualizations represent 100% of the activities and 97.8% of the connections.

Figure 14. Process before the removal of the 3 non-happy path activities

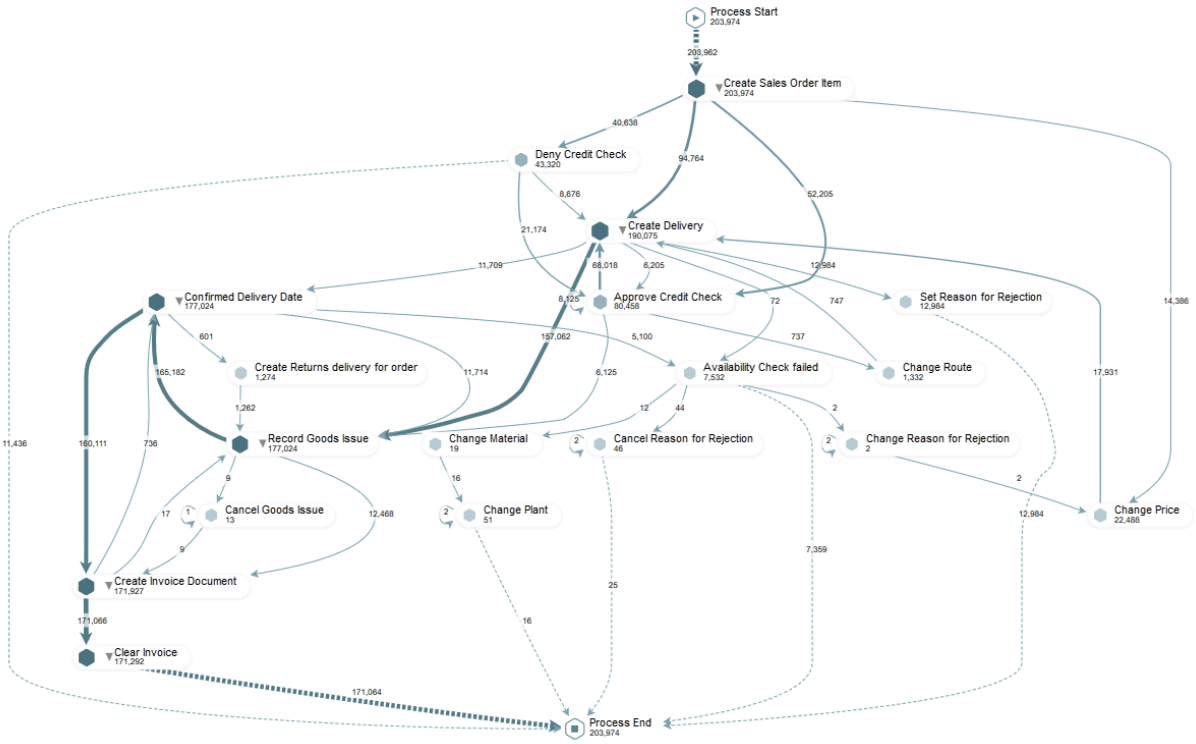
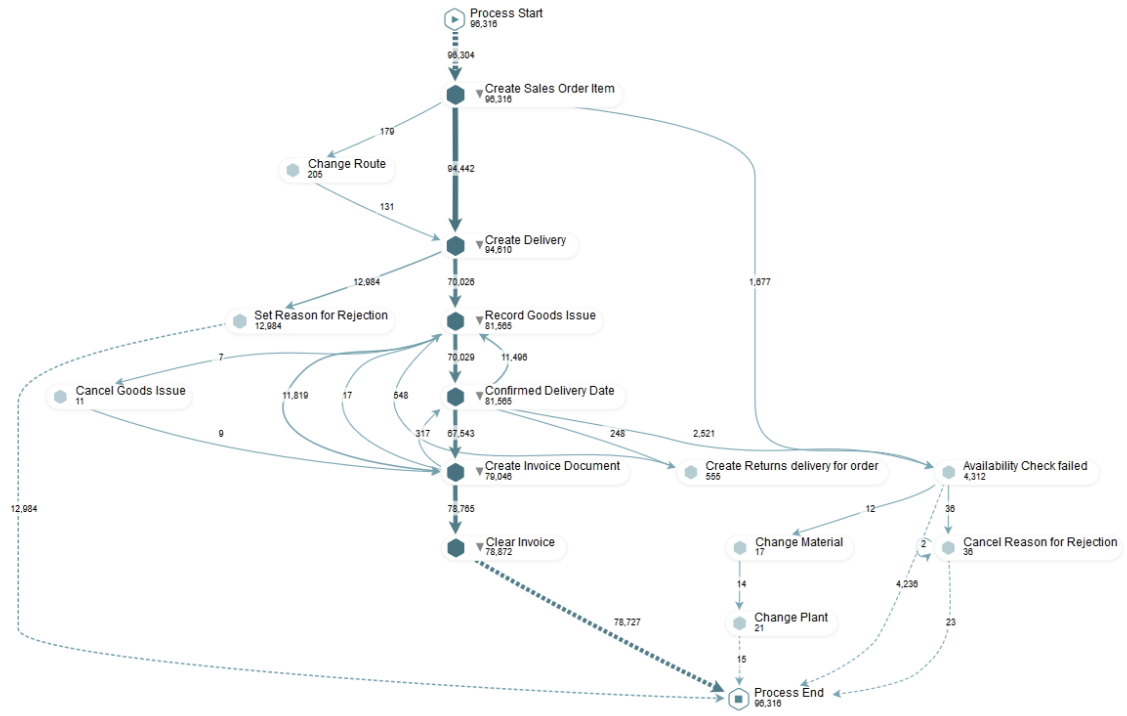


Figure 15. Process after the removal of the 3 non-happy path activities



4. Business Perspective

Through this analysis the most significant deviations to the happy path of the order to cash process have been identified. From a business perspective, the findings of the analysis are of utmost interest because efforts can be focused on the deviations that most negatively impact the business. The analysis clearly points to issues with cases that enter the Approve Credit Check, Deny Credit Check, and Change Price variances. A cost-benefit analysis of these activities should be performed by the business to fully understand the value that is expected to be delivered by performing these tasks versus the actual impact their performances have on the order to cash process.

Part II. Credit Management Process Analysis

1. Credit Management Analysis Requirements

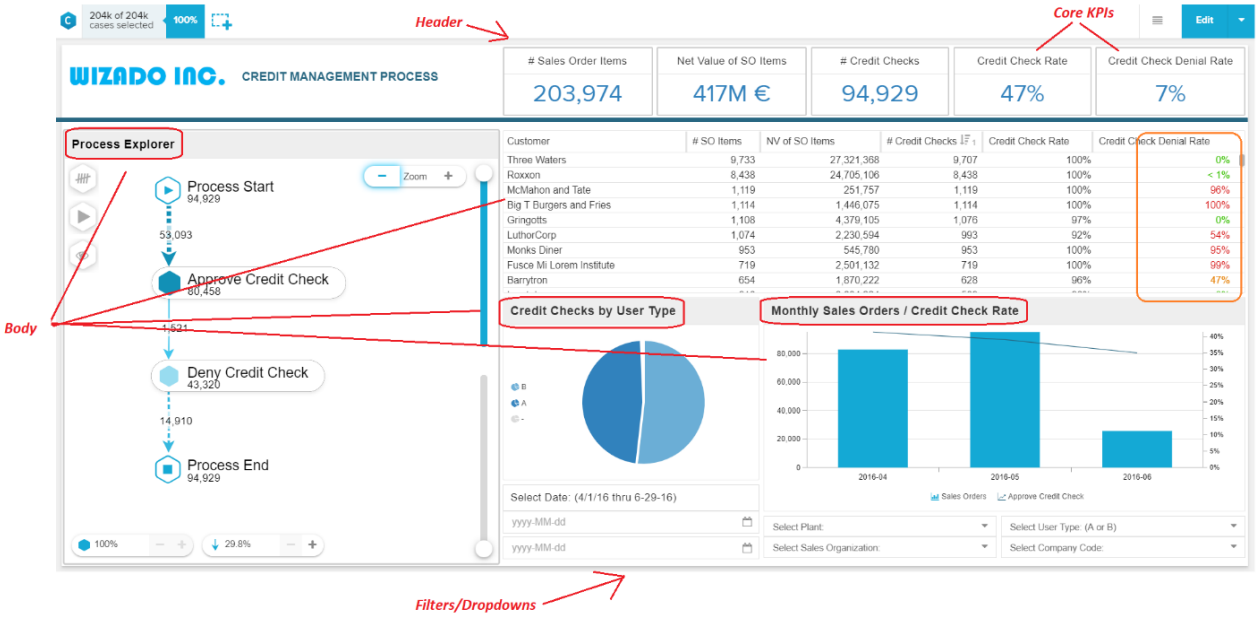
In this section, WIZADO's credit management process will be investigated using a newly created analysis in Celonis, with the goal of reducing throughput time for credit checks and minimizing the amount of bad debt expenses, in accordance with the following specific requirements of the stakeholders in the sales operations department. This analysis will spotlight the total credit check rate, credit approval and denial rates, count of credit check items, and the associated net value of those items.

Table 4. Summary of Requirements for Credit Management Analysis

Analysis goals	**Reduce throughput time for credit checks and minimize the amount of bad debt expenses.**
Core KPIs	Credit check rate (This KPI calculates the percentage rate of sales order items which run through a credit check). Credit check denial rate (The KPI calculates the amount of cases in which a credit check has led to a denial).
Header	#Sales order items, Net value of SO items, #Credit checks, Credit check rate, Credit check denial rate
Body	Process Explorer OLAP table showing customers and the same figures as in the header per customer (set meaningful color highlighting for Credit Denial Rate) Column chart (#SO items per month) and combined line chart (Credit check rate) Pie chart showing the percentage of each user type for credit checks (Manual: *A* or Automatic: *B*)
Filters/Dropdowns	Date Picker (VBAP.ERDAT) Company code selection (VBAK.BUKRS) Plant selection (VBAK.WERKS) Sales organization (VBAK.VKORG) User Type (Manual or Automatic)

2. Credit Management Process Analysis Dashboard

Figure 16. Credit Management Process Analysis Dashboard in Celonis



3. Credit Management Process Findings

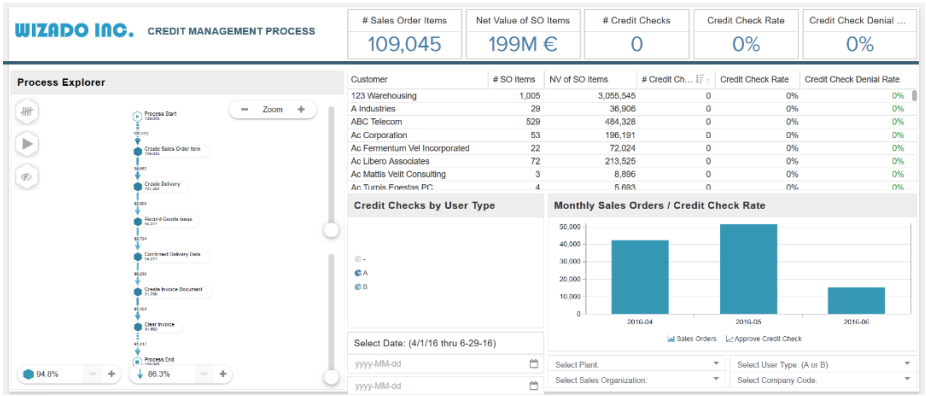
Credit Check Scenarios

Credit management analysis revealed four types of cases: (1) cases that do not flow through any credit checks, (2) cases that flow through only approved credit checks, (3) cases that flow through only denied credit checks, and (4) cases that flow through more than one approved and/or denied credit checks.

No Credit Checks

Of the total 203,974 cases, 109,045 cases do not flow through any credit checks (Figure 17). The net value of orders that do not go through any credit checks is 199M € (see Figure 17). As the main credit management process analysis dashboard KPIs in the header indicate (Figure 16), 53% of cases do not receive any credit checks, but the net value of those items accounts for roughly 47% of total net value of sales order items.

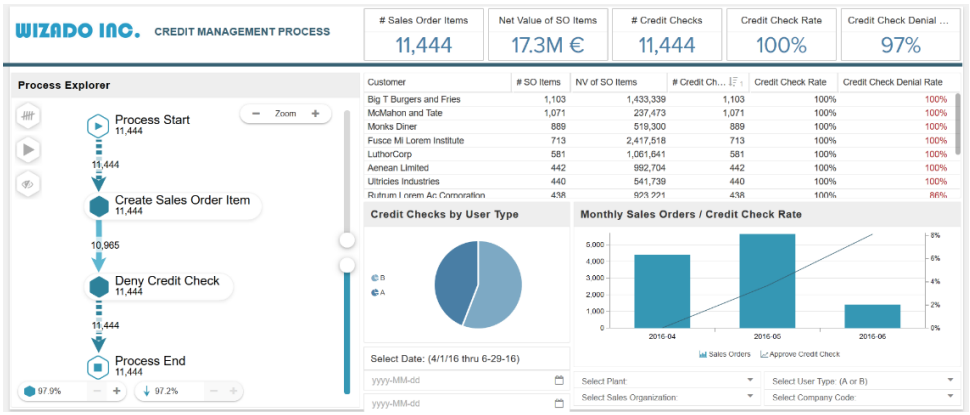
Figure 17. Cases (109,045 sales orders) that do not flow through any credit checks



Denied Credit Checks Drilldown

The credit check denial rate (7%) in the dashboard header KPI (Figure 16) represents cases that are denied credit check and reach process end. Total The net value of orders that go through deny credit checks is € 17.3M (see Figure 18).

Figure 18. Cases that flow through denied credit check



Top Customers

The top two customers receiving the most number of credit checks are: Three Waters and Roxxon with an overwhelmingly wide gap between the third, fourth and fifth customers (see Figure 19). These top two customers are also in the top three in terms of highest net value of sales order items (see Figure 20), but it is interesting that the customer with the second highest net value (Mr. Sparkle) had only 2 credit checks performed, whereas the first and third customers (Three Waters and Roxxon) had 9,707 and 8,438 credit checks respectively.

Figure 19. Customers with most credit checks

Customer	# SO Items	NV of SO Items	# Credit Checks	Credit Check Rate	Credit Check Denial Rate
Three Waters	9,733	27,321,368	9,707	100%	0%
Roxxon	8,438	24,705,106	8,438	100%	< 1%
McMahon and Tate	1,119	251,757	1,119	100%	96%
Big T Burgers and Fries	1,114	1,446,075	1,114	100%	100%
Gringotts	1,108	4,379,105	1,076	97%	0%
LuthorCorp	1,074	2,230,594	993	92%	54%
Monks Diner	953	545,780	953	100%	95%
Fusce Mi Lorem Institute	719	2,501,132	719	100%	99%
Barrytron	654	1,870,222	628	96%	47%
Input, Inc.	616	3,664,224	589	96%	0%
Sombra Corporation	587	246,788	587	100%	0%
Foo Bars	1,092	847,762	569	52%	15%
Rutrum Lorem Ac Corporation	498	1,138,166	498	100%	76%

Figure 20. Customers with highest net value of sales order items

Customer	# SO Items	NV of SO Items	# Credit Checks	Credit Check Rate	Credit Check Denial Rate
Three Waters	9,733	27,321,368	9,707	100%	0%
Mr. Sparkle	9,038	25,023,629	2	< 1%	0%
Roxxon	8,438	24,705,106	8,438	100%	< 1%
Los Pollos Hermanos	35	5,369,870	34	97%	0%
Gringotts	1,108	4,379,105	1,076	97%	0%
Input, Inc.	616	3,664,224	589	96%	0%
123 Warehousing	1,062	3,190,380	57	5%	0%
Primatech	548	2,548,097	29	5%	0%
Fusce Mi Lorem Institute	719	2,501,132	719	100%	99%
LuthorCorp	1,074	2,230,594	993	92%	54%
Western Gas & Electric	391	1,916,689	17	4%	0%
Barrytron	654	1,870,222	628	96%	47%
Sto Plains Holdings	516	1,721,357	4	< 1%	0%

“Other” Customers

During an examination of customers in the Credit Management Process dashboard, the analysis revealed that the largest bucket of customers listed belong to variations of the category “Others.” In fact, exporting the table in Figure 20 above as an excel file showed that 1,542 of 3,330 customers are known simply as “Others” and the net value of “Others” is € 57.3M out of € 417M total net value (see Table 5), which is 13.75% of total net value. When the “Others” bucket is analyzed further for customers that had a price change, "Others" accounts for 32.62% of net value. Discussion of why this finding is of interest follows in the subsequent Business Perspective section.

Table 5. Exported dashboard OLAP table filtered by “Others” customer bucket

1	Customer [Customer]	# SO Items	NV of SO Items	# Credit Checks	Credit Check Rate	Credit Check Denial Rate
1523	Others #1610	13	249,434.16	13	100.00%	0.00%
1524	Others #1039	7	250,706.08	0	0.00%	0.00%
1525	Others #3103	132	251,121.82	0	0.00%	0.00%
1526	Others #3119	27	252,050.03	1	3.70%	0.00%
1527	Others #3293	123	260,027.88	123	100.00%	0.00%
1528	Others #2910	63	268,350.52	63	100.00%	0.00%
1529	Others #3503	137	272,725.23	0	0.00%	0.00%
1530	Others #2847	79	277,330.15	36	45.57%	0.00%
1531	Others #2692	114	289,953.10	114	100.00%	0.00%
1532	Others #3613	43	293,545.61	8	18.60%	0.00%
1533	Others #3288	42	295,498.41	42	100.00%	0.00%
1534	Others #1360	17	317,303.74	10	58.82%	0.00%
1535	Others #2941	28	327,632.04	1	3.57%	0.00%
1536	Others #3182	37	334,940.52	17	45.95%	0.00%
1537	Others #2484	53	380,083.79	53	100.00%	0.00%
1538	Others #3050	53	433,971.14	53	100.00%	0.00%
1539	Others #3181	45	439,983.75	45	100.00%	0.00%
1540	Others #3202	60	597,883.22	60	100.00%	0.00%
1541	Others #3237	50	616,978.23	18	36.00%	0.00%
1542	Others #3022	49	707,812.40	0	0.00%	0.00%
1543	Others #2513	46	751,625.25	5	10.87%	0.00%
1544	Others = 1542		57,318,029.01			

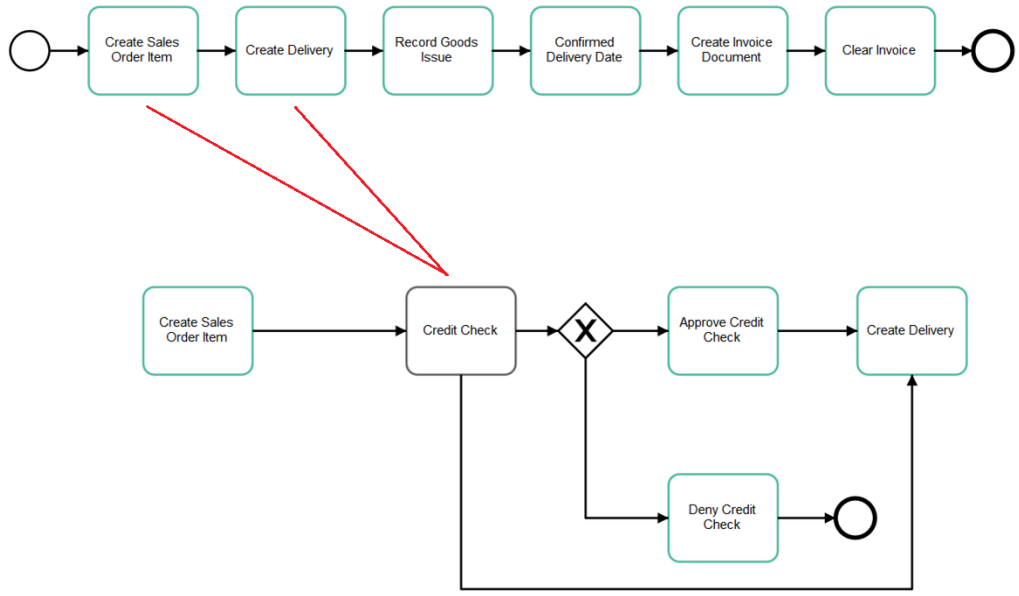
4. Business Perspective

The credit management process analysis revealed that a total of 47% of all sales order cases flow through a credit check process, which is an activity that is outside the happy path and contributes to delayed throughput times. From a business perspective, this is interesting because it identifies an opportunity to streamline the process and remove the bottleneck to increase productivity and revenue. Also, the credit management process analysis enables the business to explore potential customer dissatisfaction and find constructive alternatives, particularly in cases with denied credit checks that led to the rejection of a sales order or in recurring cases of denied credit checks with a specific customer.

One of the most compelling findings from the credit management analysis is that the credit check process, particularly pertaining to the lack of transparent or clearly defined procedures around credit checks demands process analysts to collaborate with business process specialists with regard to the inefficiencies observed around credit management processes. One recommendation would be to implement a distinct credit check determination activity, where the output of this activity would be either a yes or a no. If the output were a yes for check credit, the result would go to either approve or denied; if the output were a no for check credit, then the result would go directly to create delivery (Figure 21).

Another finding of interest is with regard to the “Others” bucket of customers. In order for Credit Management Process analysis to reach its full potential, activities should be transparent enough to allow the pertinent business units to extend analysis/investigation into individual cases and deviations thereof, including specific customers identified to be of special interest. However, with so many customers bulked into “Others” bucket, such analysis may require much more time and effort.

Figure 21. Proposed credit check determination activity



WIZADO's overall business goal is to streamline the O2C process to increase efficiency and revenue. This analysis revealed that credit management activities in the O2C process contributes to additional days in throughput time, which is counter-productive to the goal of increasing efficiency and revenue. The delay in throughput time affects 47% of all sales order items and accounts for up to 417M € in net order value from the number of credit checks denied.

PART III. BUSINESS VALUE PREDICTION FOR COMPANY-WIDE PROCESS MINING

Part I and II of this report document the insightful functionalities of process mining with Celonis. In this third part of the report, the business case and the overall monetary potential for a company-wide roll-out of process mining initiative will be proffered. For this business value prediction, two of the findings from the previous sections, the approval credit check and the change price activities, will be used in the formula and calculation.

1. BUSINESS CASE

1) Approve Credit Check

The impact of the Approve Credit Check variance negatively affects the order to cash process significantly.

In the 3-month period available for analysis with 204k examples, available 84k of these cases enter the variance adding 13 days to the process which represents a 68% increase in throughput time. 76k of the examples entering this variance flow through to the last activity of the process, Clear Invoice (90%). The value of the 76k cases that flow through to the end of the process is € 192M.

Using a 12-month period, the following comparisons of completed order to cash cycles is provided:

Table 6. Comparison of throughput times for Approve Credit Check and potential revenue savings

Throughput Time	Approve Credit Check Value (in millions)	Throughput Time	Approve Credit Check Value (in millions)
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
32.5	64	21	64
357.5 DAYS	**704 MILLION EURO**	21	64
		21	64
		21	64
DELTA	**384**	21	64
		21	64
		21	64
		357 DAYS	**1088 MILLION EURO**

If the Approval Credit Check variance can meet the throughput time of all other cases not entering it, 21 days, the business stands to capture 384 million euros of additional revenue in each 12-month period.

2) Change Price

The impact of the Change Price variance negatively affects the order to cash process moderately.

In the 3-month period available for analysis with 204k examples, 22k cases enter the variance, adding 7 days to the process which represents a 36% increase in throughput time. 19k of the examples entering this variance flow through the last activity of the process of Clear Invoice (86%).

Using a 12-month period, the following comparisons of completed order to cash cycles is provided:

Table 7. Comparison of throughput times for Change Price and potential revenue savings

Throughput Time	Change Price Value (in millions)	Throughput Time	Change Price (in millions)
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
32.1	17.1	26	17.1
353.1 DAYS	188.1 MILLION EURO	26	17.1
		26	17.1
DELTA	51.3	26	17.1
		364 DAYS	239.4 MILLION EURO

If the change price variance can meet the throughput time of all other cases not entering it, 26 days, the business stands to capture 51.3 million euros in each 12-month period.

2. Business Impact

If WIZADO were successful in implementing improvements to these two variances in its order to cash process, the overall monetary potential is valued at 435.3 million euros (See Table 6, 7 DELTA).

Celonis is currently offering licensing of its proprietary process mining software to WIZADO, INC for $500K. The value of this tool is provided within this analysis which represents 870% potential return on this investment within two variances of one process.

A process mining team consisting of the following staff would be required:

1. Data Scientist: This person would serve as the most technically oriented member of the staff. He/She would have deep technical expertise in Celonis and be able to assist in software implementation and upgrade. Salary & Benefits: $142k
2. Analyst: This person would have deep knowledge in Celonis and have the capability to prepare analysis dashboards for other uses to enable process mining analysis. Salary & Benefits $125k.
3. Related infrastructure:
    a. AWS $15k
4. Total yearly staff and infrastructure costs for process mining capability: $282k

3. Assumptions

The following assumptions were adopted in the formulation of the preceding business value predictions:

- Using the available data, monetary figures were extrapolated for 12 months.
- Celonis license and implementation cost is estimated at $500K.

- WIZADO has a business intelligence unit where the process mining team could be integrated for administrative purposes.

Business Recommendation

Based upon the results of the process analysis using Celonis, the following recommendations are proposed for WIZADO, Inc.

1. The business should invest in process mining capability by organizing a process mining team housed in the business intelligence group. Celonis licensing costs is $500k with yearly staff and infrastructure costs of $282k.
2. The business should evaluate its core competencies and determine if extending credit is one of those activities. The stated goal in this analysis was to find opportunities for improvements to the order to cash process. The ultimate solution to this issue is for the business to remove from the order to cash process the activity of approving credit. A potential solution for this would be to partner with a bank or another institution whose comparative advantage is in the credit business. The lending partner could assist WIZADO's customers in getting the credit line needed to make purchases and once an order is fulfilled, would the transfer the payment to WIZADO.
3. While price changes allow flexibility to the business to close sales, this activity lengthens the throughput time of the order to cash process. Throughout this analysis we have seen correlations between price changes and the approval of credit variances. We recommend that the approval of credit variance be the business' primary target for improvement and then analyze price change variance.
4. Current credit check process adds days to the happy path throughput time. Process analysts need to work with specific department business specialists to explore the credit check process variances and affected customers in depth to streamline and/or implement process improvements.