

Workshop: Let's Get Mining

Microsoft Power Platform Conference 2023

Lab 3 – Analyze a process in Process Mining Desktop

60 mins

October 2023



This document is provided "as-is." Information and views expressed in this document, including URL and other Internet Web site references, may change without notice. You bear the risk of using it. Some examples are fictitious and are for illustration only. No real association is intended or inferred. This document does not provide you with any legal rights to any intellectual property in any Microsoft product. You may copy and use this document for your internal reference purposes.

© 2023 Microsoft Corporation. All rights reserved.

ANALYZE A PROCES IN PROCESS MINING DESKTOP APP

Lab Overview

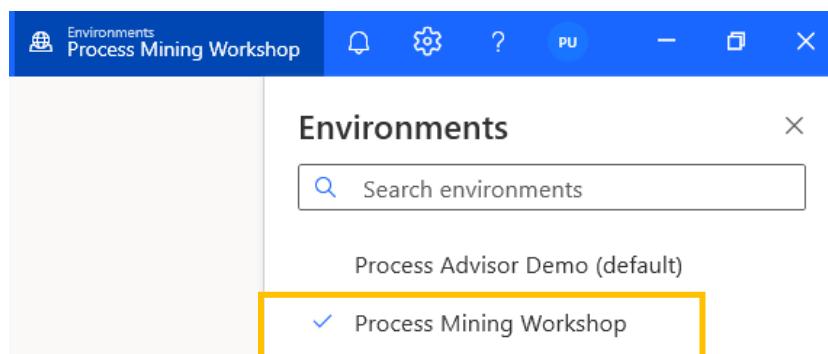
Welcome to the part of the workshop, where we'll introduce you to the Power Automate Process Mining Desktop app, a critical tool for process optimization and automation. During this session, we will delve into the intricacies of process map identification, view creation, and advanced filtering techniques. This knowledge will empower you to extract invaluable insights from your organization's processes, facilitating data-driven decision-making and enhancing operational efficiency. Prepare to embark on a journey towards professional process excellence. Let's begin.

SETUP AND PROCESS MAP EXPLORATION

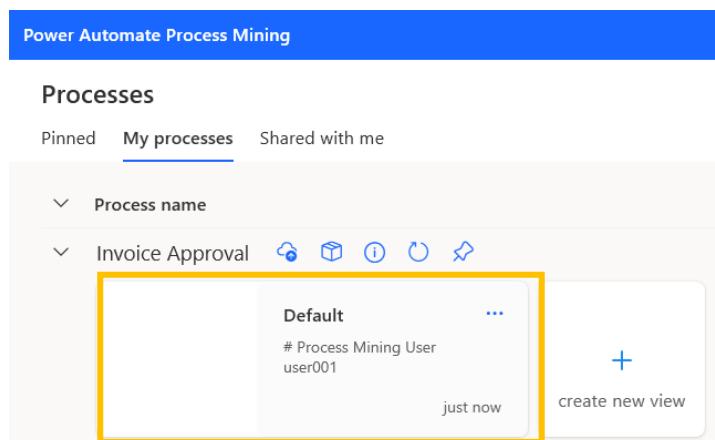
We will begin this part by getting you setup with the desktop app and familiarization with the different out-of-box process maps.

Please ensure that you have completed the setup instructions before continuing.

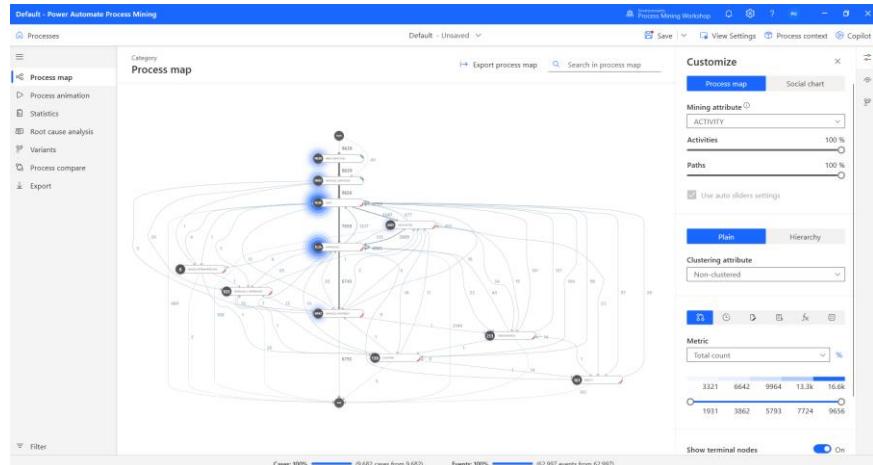
1. Ensure that you have logged into the Power Automate Process Mining desktop application.
2. From the environment picker in the top right corner select the environment you created the process on the web in. For you were given login credentials by the workshop proctors select the **Process Mining Workshop** environment.



3. From the process hub select the **Default** view of the processes that was created on the web.



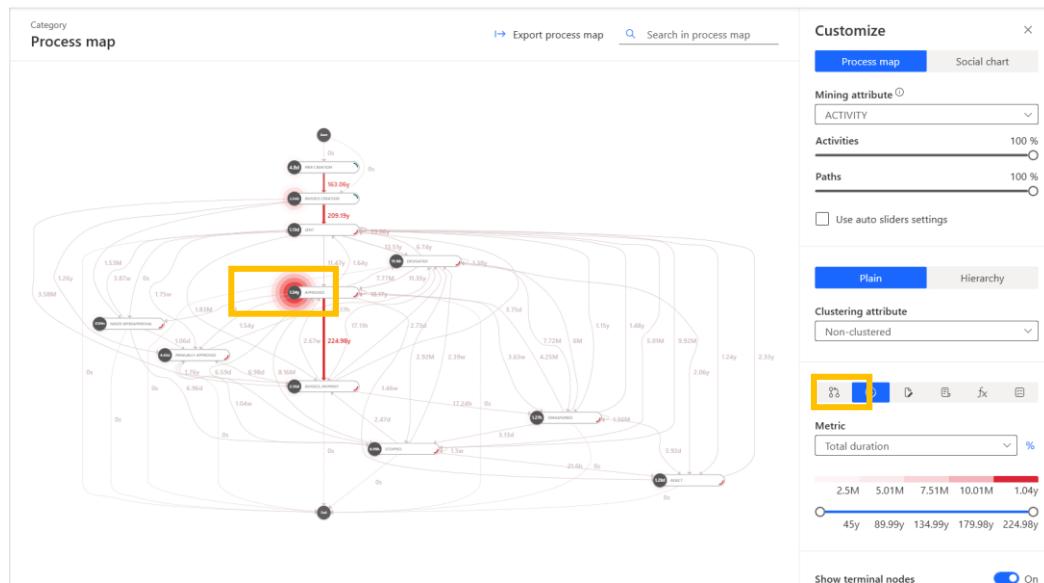
4. You will now see the process map for the process. This process map shows a flow of activities from start to finish as well as the number of times an activity is done. Take a minute to explore the current process map on your screen in this desktop experience.



Let's familiarize ourselves with some of the out-of-the-box views in the desktop app.

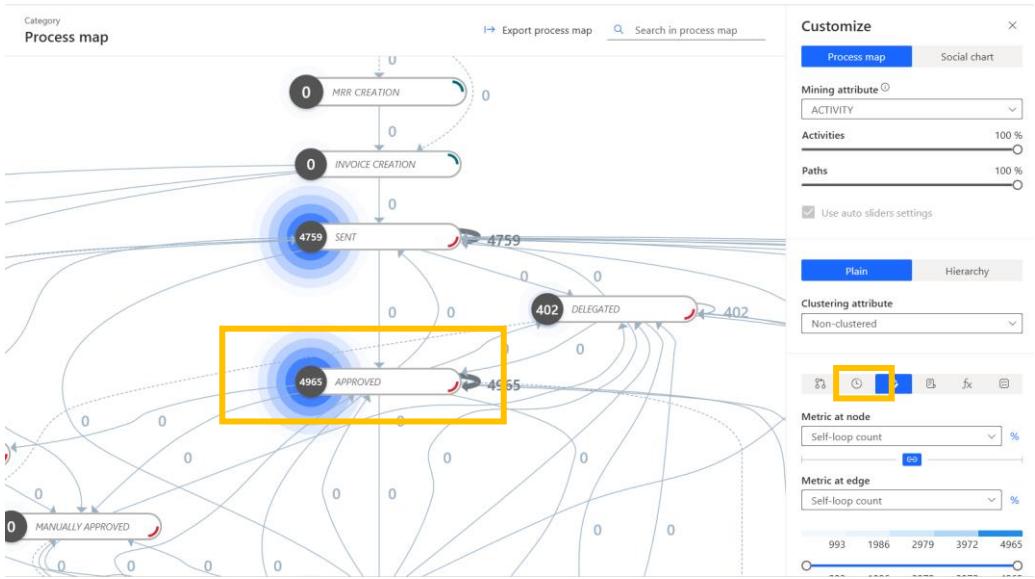
5. In the **Customize** panel select the **Performance** metric.

This process map shows you the total time each activity takes across the entire process and the total time between the occurrence of one activity and another. For example all “Approved” activities total to **1.04 years**.



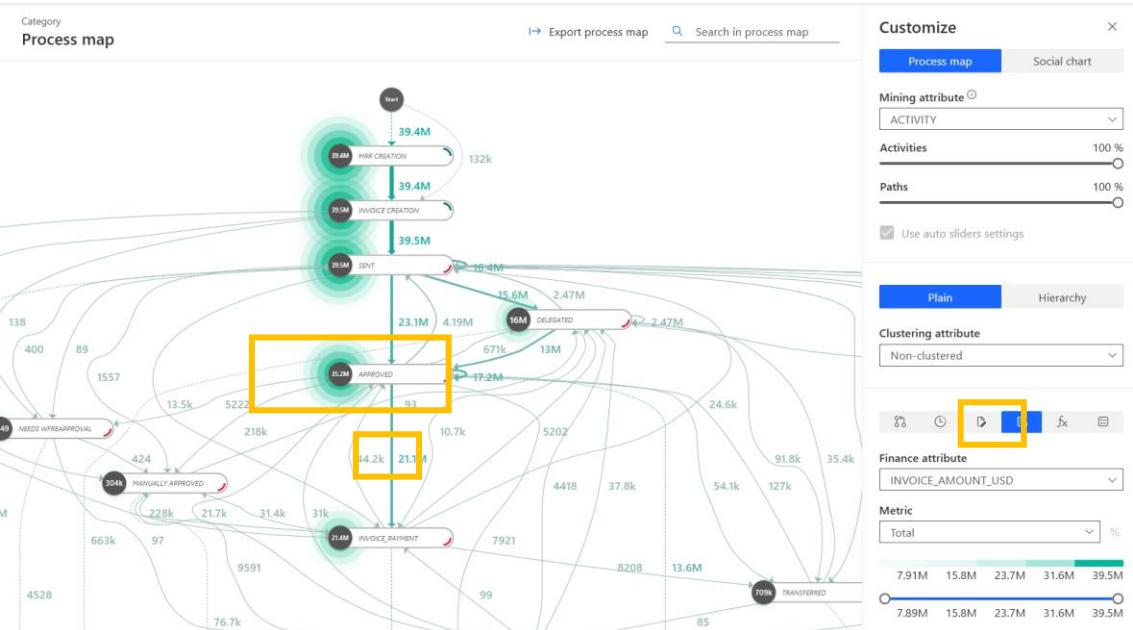
6. Now select the **Rework** metric..

This view shows self-loop count which is the number of times a process is the number of times that an activity is directly followed by the same activity. For example, there are **4965** instances in which the “Approved” activity is followed by “Approved” activity.



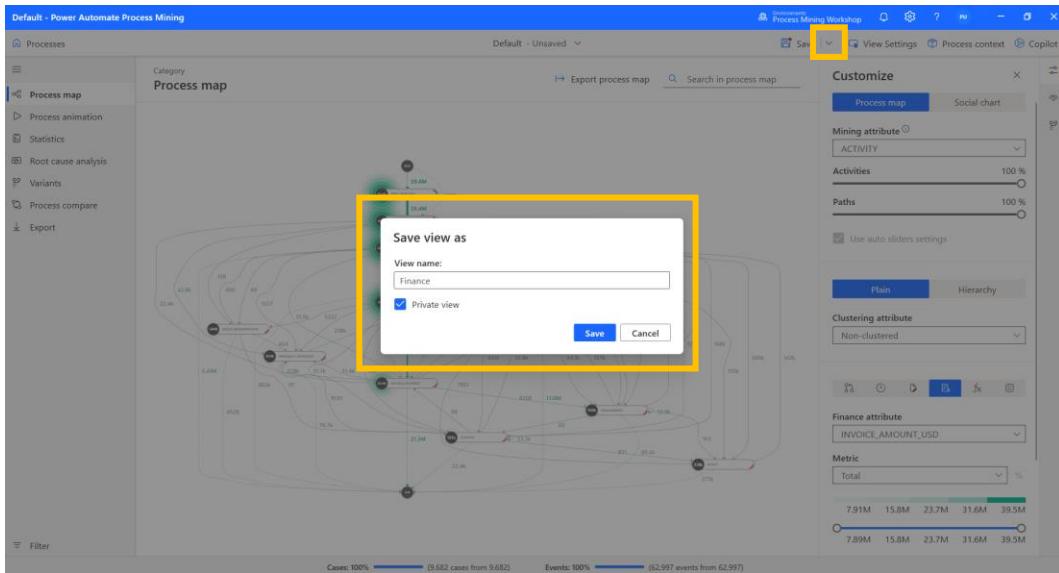
7. Next select the **Finance** view.

On this process map you can see the total amount of money that passes through an activity and the amount of money that flows from one activity to another. For example, the “Approved” activity has **35.2M USD** passing through it, and **21.1M USD** flows from the “Approved” activity to “Invoice Payment”.



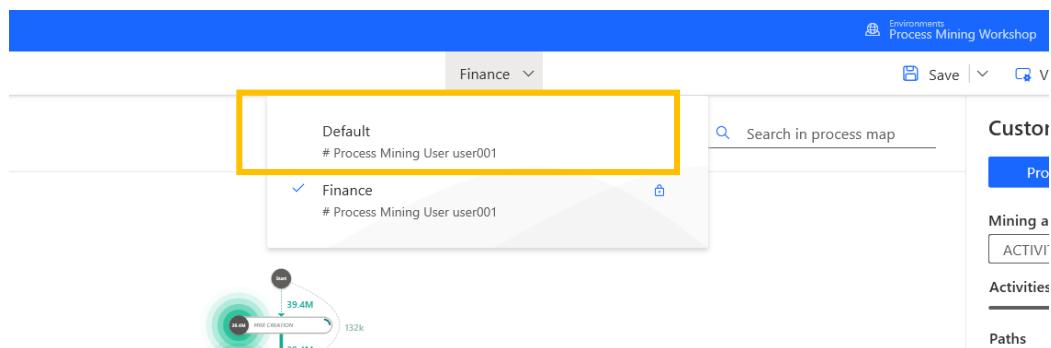
Let's practice saving a view. A *view* is a snapshot of a process with the applied filters and settings.

8. In the command bar at the top of your screen, select the dropdown beside **Save** and select **Save as**. Save the view as **Finance** and select **Save**.



Your “Finance” view has now been saved.

9. Click the view selector at the top of your screen and switch back to the “Default” view.



REAL BUSINESS CASE – COST SAVINGS FROM DISCOUNTING

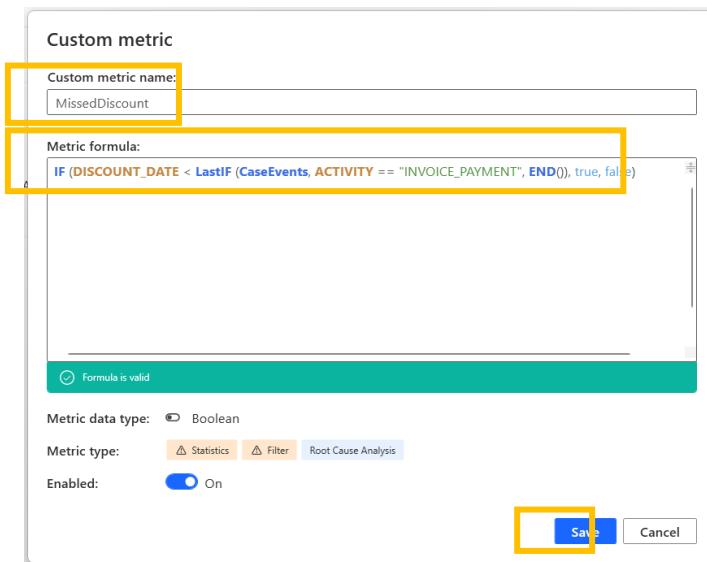
Comparing Missed Discounts

During invoicing, companies can realize discounts by completing and paying invoices within a certain period of time called the *discount window*. In this next section we will look into what causes our business to miss the discount window and discuss what we can do to prevent missed discounts in the future. We will perform this section with the following capabilities:

- **Custom metrics** – allows the creation of new metrics using formulas
- **Filtering** – filters cases based on certain attributes
- **Process compare** – compares two different views of a process
- **Root Cause Analysis** – helps determine the metrics that influence a certain base metric

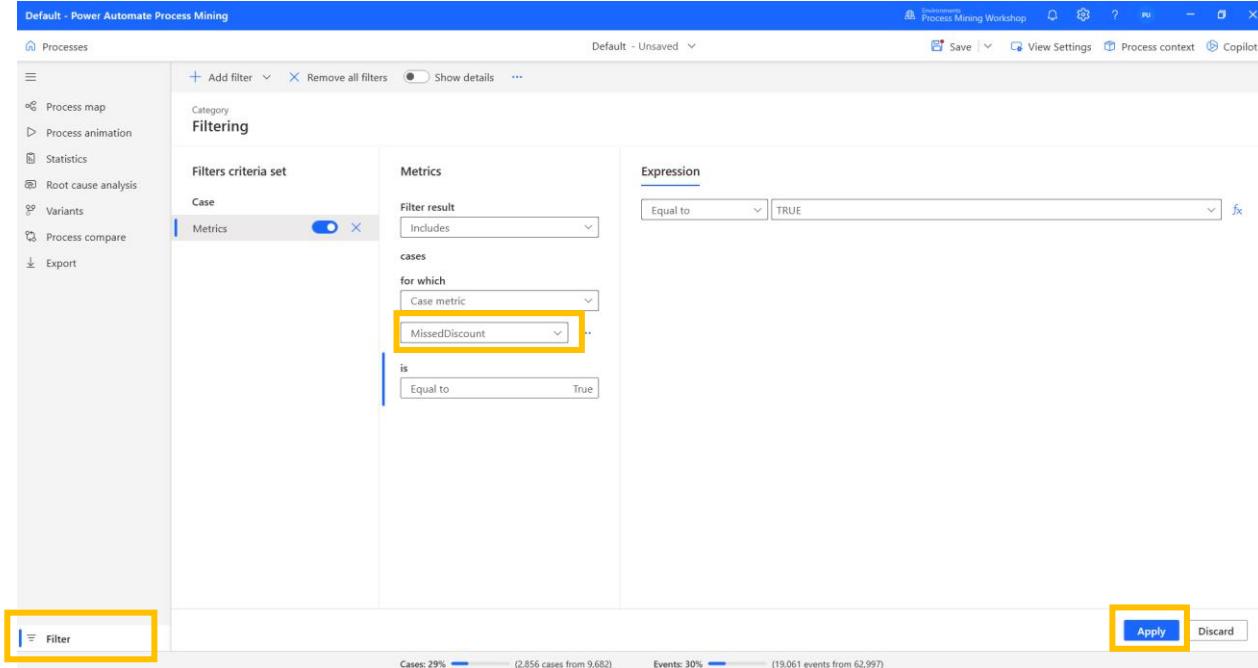
Let us start with creating a boolean (true/false) custom metric called “MissedDiscount”.

1. Go back to the **Default** view.
2. Select **Process context** from the command bar.
3. In the **Custom metrics** section, select **Create new custom metric**.
4. Create a custom metric with the name **MissedDicscount** and set the formula as **IF (DISCOUNT_DATE < LastIF (CaseEvents, ACTIVITY == "INVOICE_PAYMENT", END()), true, false)**
5. Select **Save**.



The metric checks the date of invoice payment activity against the discount date on the invoice and if the discount date has passed, it sets the **MissedDiscount** metric for that case to true and vice versa.

6. Select **Filter** from the bottom left corner.
7. Select **Add filter** and **Metrics** from the dropdown.
8. From the empty dropdown select **MissedDiscount**.
9. Select **Apply**.
10. Save the view as **Missed Discount** (remember how we saved a view from the last section 😊).



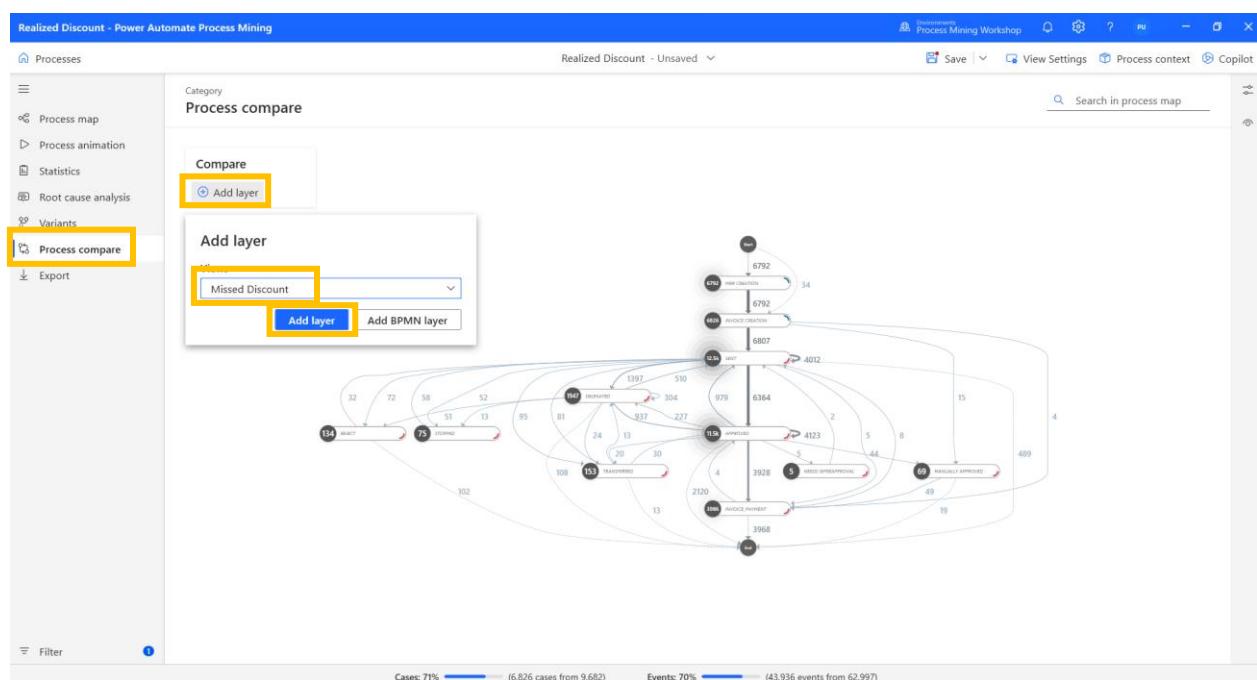
Now let's create a view for the invoices that in which the discounts were realized.

11. In the same view **Filter** from the bottom left corner.
12. Click **Metrics**.
13. In the **Expression** section select **FALSE** from the dropdown.
14. Select **Apply**.
15. Now save this view as **Realized Discount**.

The screenshot shows the 'Filtering' interface in Power Automate Process Mining. The 'Metrics' section is selected. A filter criteria set for 'Missed Discount' cases is defined, with the metric set to 'Equal to False'. The 'Expression' field shows the condition 'Equal to FALSE'. The 'Filter' and 'Apply' buttons are highlighted with yellow boxes.

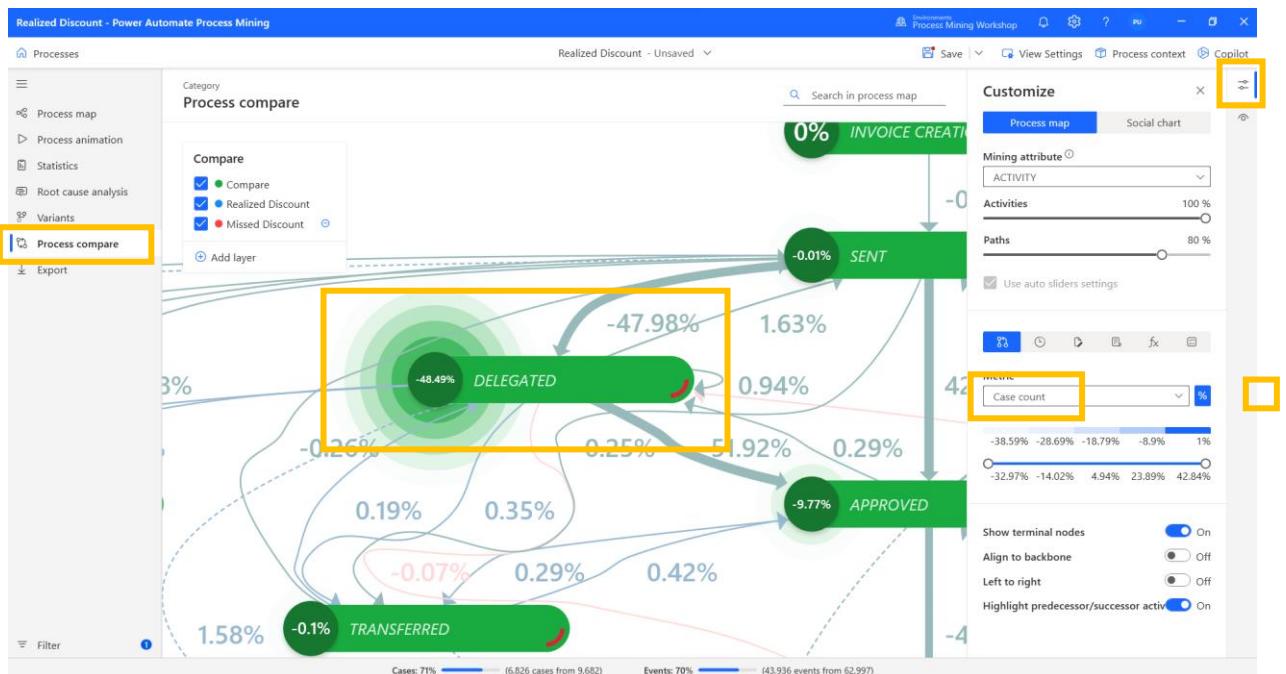
Now let's compare the cases that realized discounts to those that missed the discount.

16. Ensure that you are currently on the *Realized Discount* view. Select **Process compare** from the left navigation.
17. Select **Add layer** and **Missed Discount**.
18. Select **Add layer**.



19. From the **Customize** panel, select **Case count** from the **Metric** dropdown.

20. Select the percentage (%) symbol.



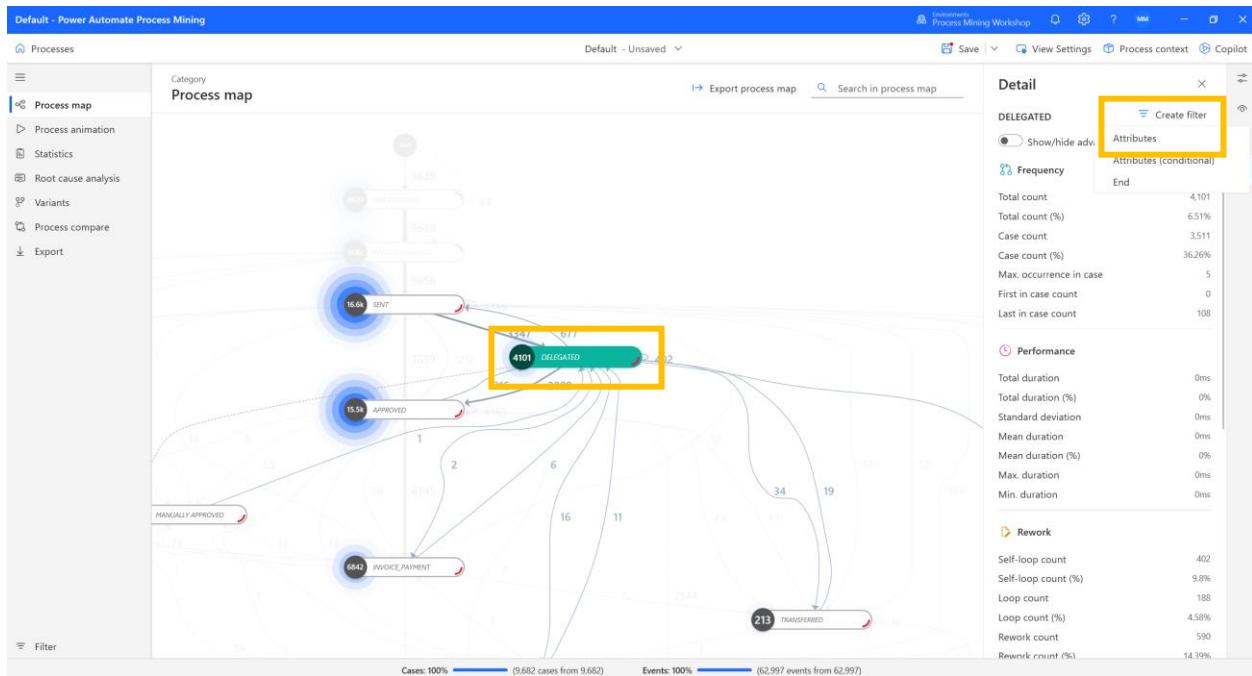
Take a look at the **DELEGATED**. While other activities are not significantly different in % of case count, we see that the **DELEGATED** activity occurs **48.49%** more times in cases that missed the discount than in cases that realized the discount.

So, it seems like the **DELEGATED** activity causes a lot of the invoices to miss the discount window. Let's dig deeper into the **root cause** of missed discounts in cases that had the delegated activities.

Root-cause Analysis of Missed Discounts

We will start by filtering out the process to have cases with only the **DELEGATED** activity. You saw how to filter using the **Filter** button, but there's another way – directly from the process map!

1. Head back to the **Default** view.
2. On the process map click on the node of the **DELEGATED** activity.
3. In the side panel select **Create Filter > Attributes**.



4. Now, on the filter page select **Apply**.

You have just filtered out all the cases of invoices that were delegated. Let's see what causes delegated invoices to miss the discount window. You will select the based metric you want to analyze and then see how other factors in your data influence that metric.

5. From the left navigation panel, select **Root cause analysis**.
6. In the **Metric** dropdown select **MissedDiscount**.
7. In the **Influenced by** list select the following case level attributes – **VENDOR_ID, TYPE_CODE, SOURCE, Supplier_City, Material_Code**.
8. Select **Analyze**.

Default - Power Automate Process Mining

Processes

Category: Root cause analysis

Settings Analysis

Find the Root-Cause of

Description

Metric: MissedDiscount

VALUE COUNT

True	2012
False	1499

Influenced by

Metric name

- DUE_DATE
- Event count
- INVOICE_TYPE_LOOKUP_CODE
- Loss count
- Material_Code
- MissedDiscount
- ORG_ID
- Rework count
- Self-loop count
- SOURCE
- Supplier_City
- TYPE_CODE
- VENDOR_ID

Analyze

Cases: 36% (3,511 cases from 9,682) Events: 37% (23,196 events from 62,997)

On the RCA screen you will see a tree.

Default - Power Automate Process Mining

Processes

Category: Root cause analysis

Settings Analysis

MissedDiscount

Next split by: Best choice - VENDOR_ID 149:27 100.00%

2012

VENDOR_ID 3098858, ... (149)

190 948

Compute next split by clicking the plus icon

VENDOR_ID 2104552, ... (27)

2514963
2635666
2778038
1927569
1967563
214642
2856323
3344322
3378286

x split by clicking the plus icon

Cases: 36% (3,511 cases from 9,682) Events: 37% (23,196 events from 62,997)

Look at the right side of the tree.

- Click the **VENDOR_ID** list. This list shows that there are 27 vendors who cause a majority of invoices to miss the discounts.

Let's recap:

- You found the cases that missed the discount window
- You found the cases that realized the discount window
- You compared missed discount cases to realized discount cases
- You found that the DELEGATED activity is prevalent in cases with missed discounts
- You filtered out cases with the DELEGATED activity and found the root cause of missing discounts in those cases
- You found a set of vendors in the business that leads to missed discounts

So, what's next...?

After finding these insights, you can have a conversation with your business about these vendors make a decisions based on that. Although the following is out of scope, we did these based on the insights:

1. Created an [AI Builder](#) model to predict when a new invoice will likely miss the discount window.
2. Create a Power Automate flow that leverages the model to notify the business when a new invoice is likely to miss the discount window and offers recommendations on how to mitigate the missing of the discount window.

CONCLUSION

We have come to the end of this part of the workshop. We've explored the Power Automate Process Mining desktop app, utilizing its functionalities for solving an issue of missing discounts in our business. Based on these insights, we can formulate recommendations and automations to improve discount realizations and to drive cost savings.

Note we only explored a tip of the iceberg in terms of features of the Power Automate Process Mining desktop app. To learn more about other functionalities of the desktop app, visit [Overview of Power Automate Process Mining - Power Automate | Microsoft Learn](#).

Congratulations!

You have completed this lab.

Information in this document, including URL and other Internet Web site references, is subject to change without notice. Unless otherwise noted, the example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted herein are fictitious, and no association with any real company, organization, product, domain name, e-mail address, logo, person, place or event is intended or should be inferred. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

The names of manufacturers, products, or URLs are provided for informational purposes only and Microsoft makes no representations or warranties, either expressed, implied, or statutory, regarding these manufacturers or the use of the products with any Microsoft technologies. The inclusion of a manufacturer or product does not imply endorsement of Microsoft of the manufacturer or product. Links may be provided to third party sites. Such sites are not under the control of Microsoft and Microsoft is not responsible for the contents of any linked site or any link contained in a linked site, or any changes or updates to such sites. Microsoft is not responsible for webcasting, or any other form of transmission received from any linked site. Microsoft is providing these links to you only as a convenience, and the inclusion of any link does not imply endorsement of Microsoft of the site, or the products contained therein.

© 2023 Microsoft Corporation. All rights reserved.

Microsoft and the trademarks listed at

<https://www.microsoft.com/enus/legal/intellectualproperty/Trademarks/Usage/General.aspx> are trademarks of the Microsoft group of companies. All other trademarks are the property of their respective owners.