

From process visibility to business value

SESSION 09 • 15:20 – 15:40 • VILNIUS



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WHAT IS PROCESS MINING?

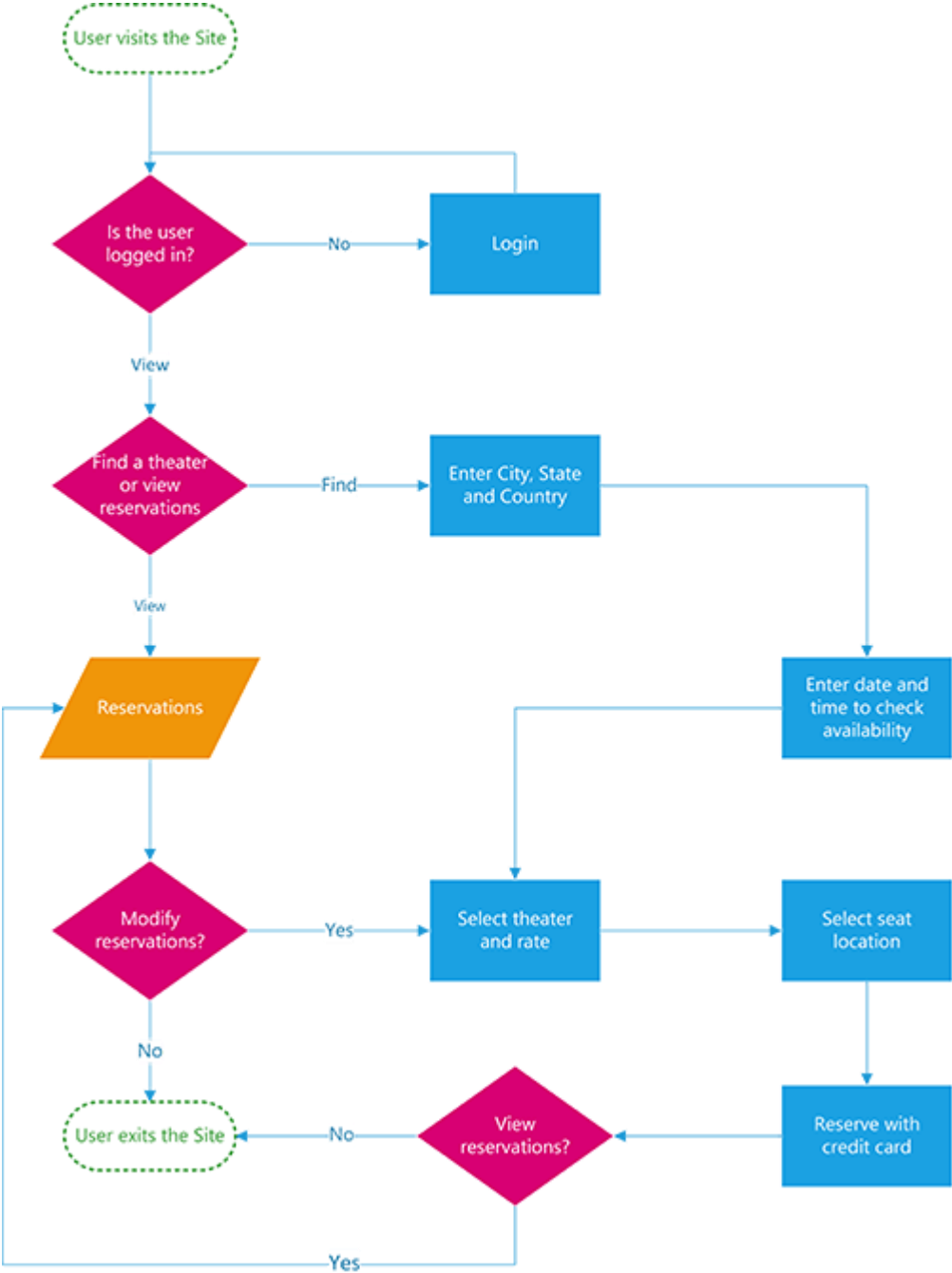
**HOW MANY OF YOU REALLY KNOW
HOW YOUR BUSINESS PROCESSES
WORK END-TO-END?**



WHAT IS PROCESS MINING?

SOMEONE DREW A NICE PICTURE IN VISIO

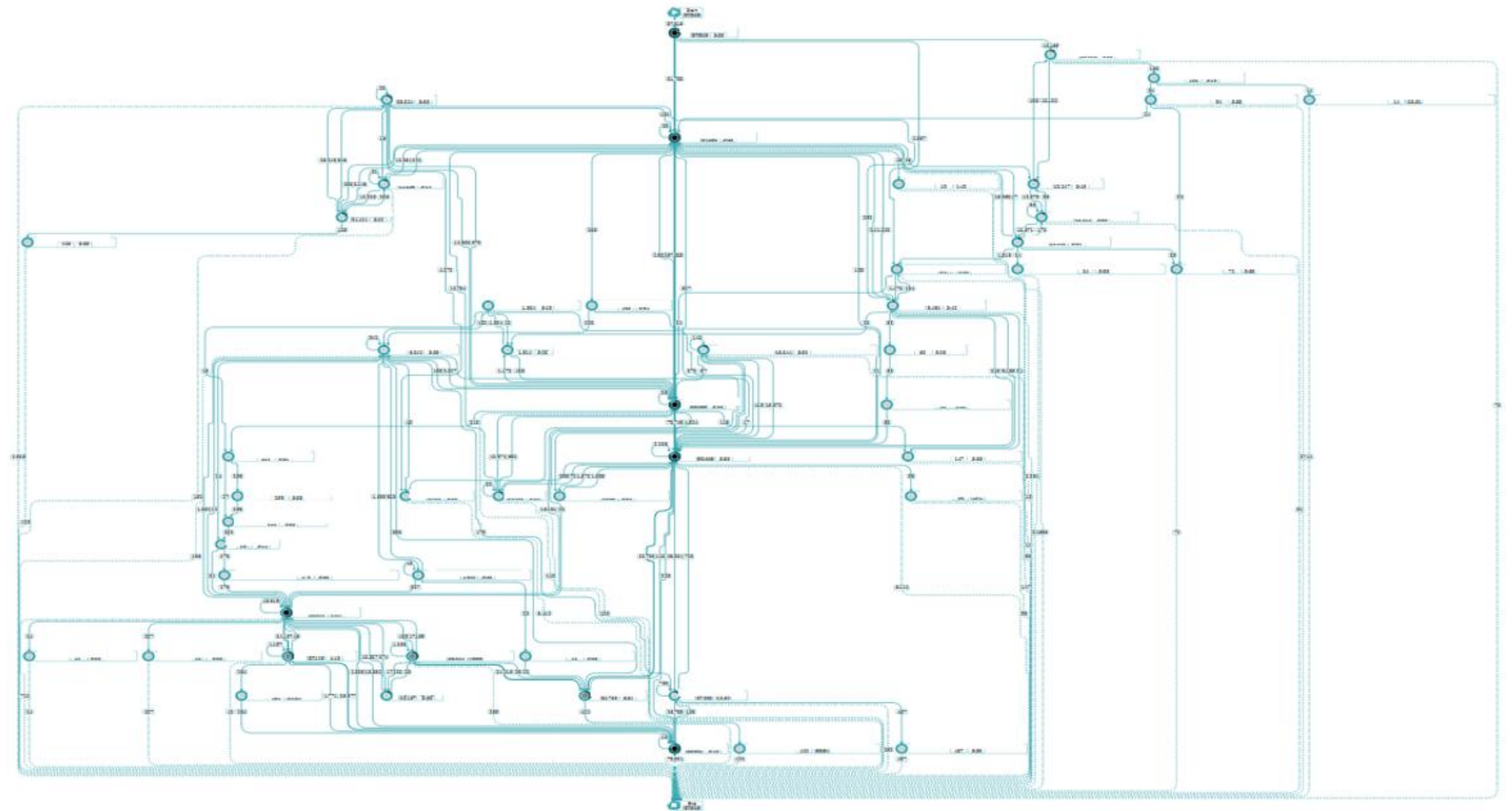
Transparent
Efficient
Structured



WHAT IS PROCESS MINING?

THE REALITY?

Messy
Entangled
Non-conformant



WHO AM I

MORGAN KEJERHAG

Co-founder & Data Architect
Drake Analytics



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WHAT IS PROCESS MINING?

Automated Business Process Analysis

Business Process Discovery

Operational Process Intelligence

Process Excellence Analytics

Business Intelligence for our processes

**AUTOMATICALLY VISUALIZE AND ANALYZE PROCESSES WITH THE USE OF
DIGITAL TRACES (EVENT LOGS).**

mpmX



WHAT IS PROCESS MINING?

ALL PROCESSES HAVE A START AND AN END

3,854 cases



WHAT IS PROCESS MINING?

ACTIVITIES ARE THE STEPS WE PERFORM IN OUR PROCESSES

A customer made a purchase
We picked something in the warehouse
Technical support closed a ticket

- Number of events
- Spent time
- Generated cost
- CO2 emissions produced



WHAT IS PROCESS MINING?

EDGES TELL US THE PATH THROUGH THE PROCESS

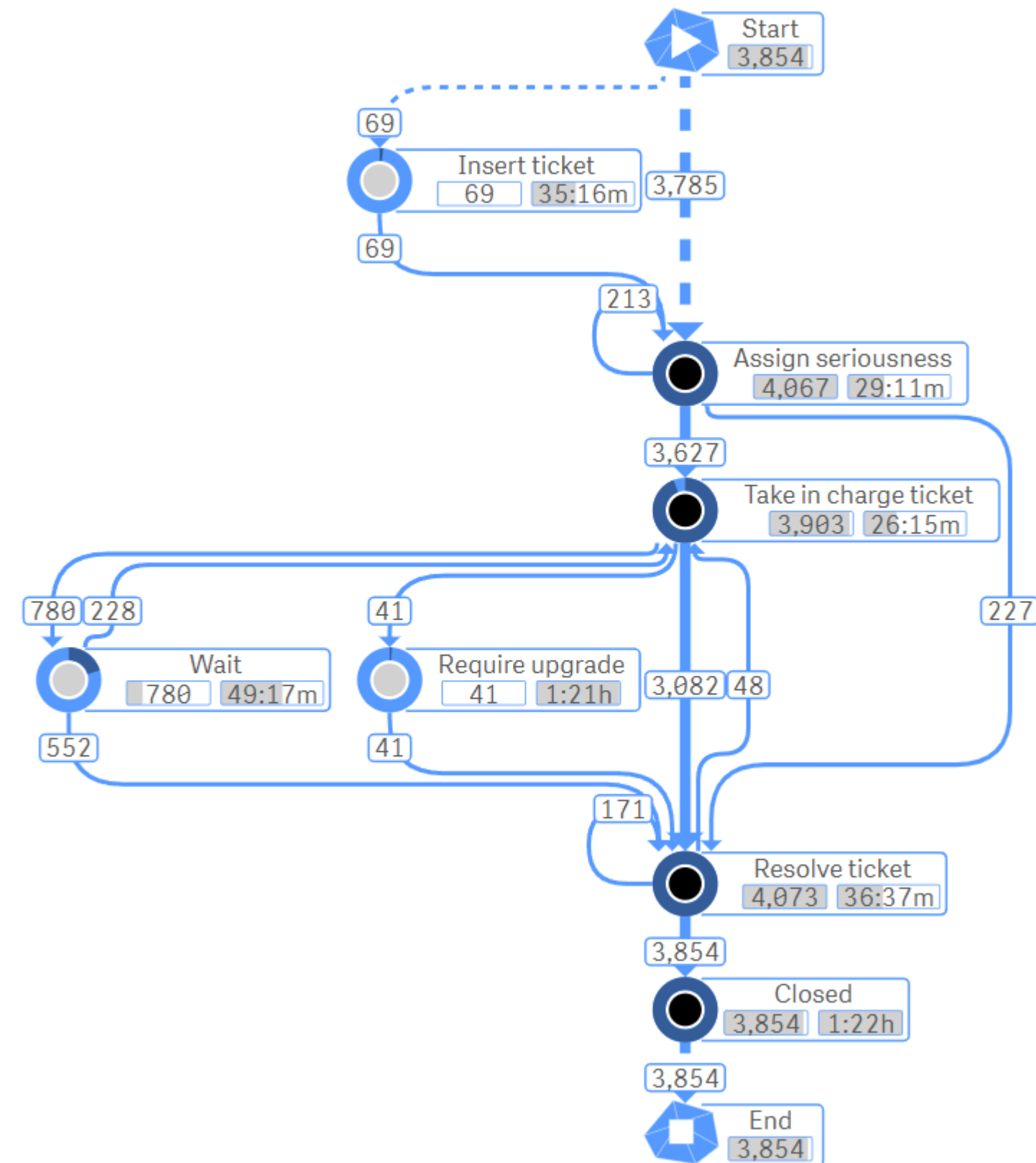
Flows downwards, from start to end

Sometimes up

Sometimes a loop

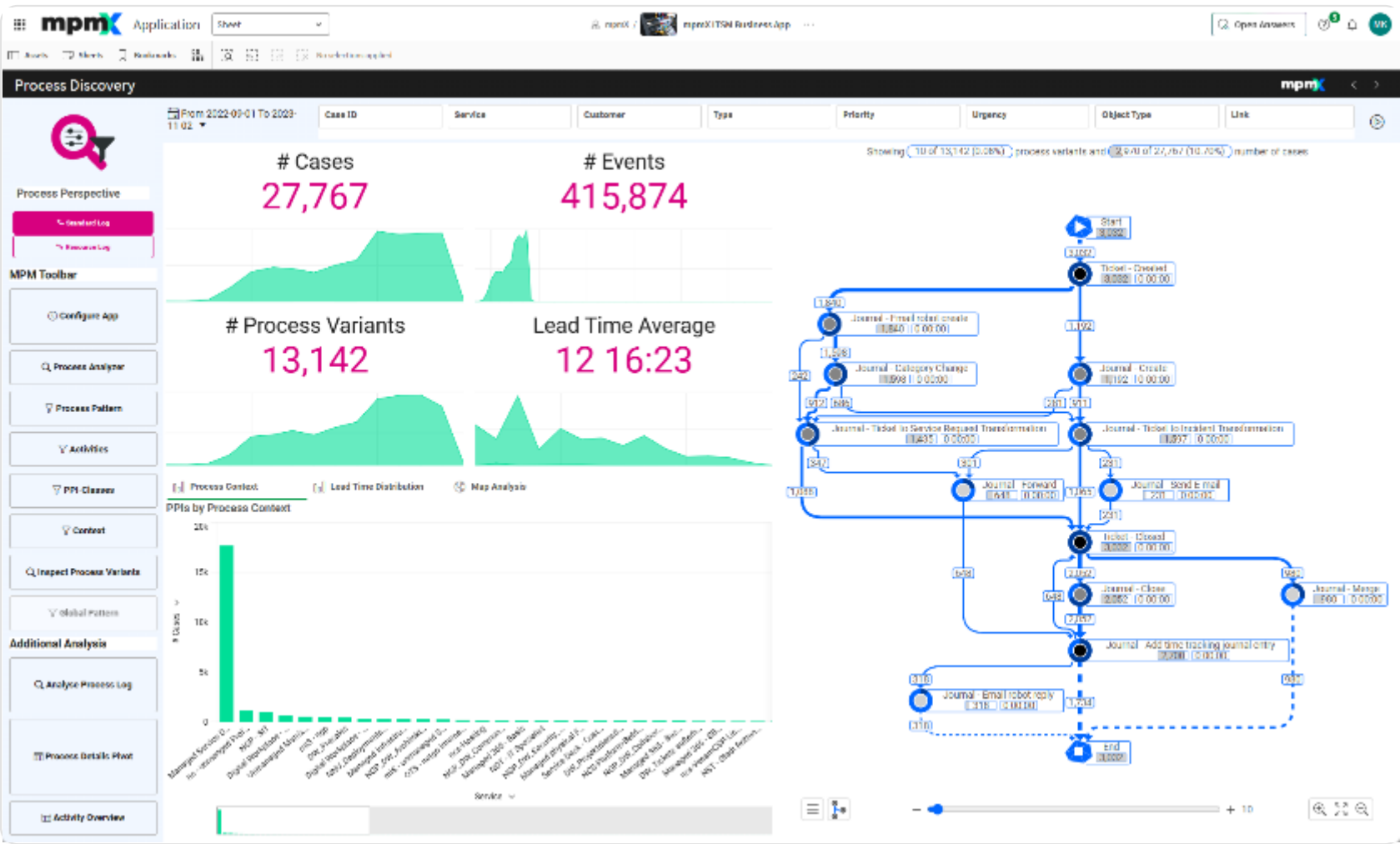
Number of cases

Time between activities



WHY PROCESS MINING?

- Drive efficiencies
- Bottlenecks and deviations become visible
- Understand how our processes really work
- Process governance & compliance
- Starting-point for automation
- Analyze automation/agent flows



mpmX Process Discovery – 27,767 cases, 415,874 events, 13,142 process variants.



THE OLD WAY

CONVENTIONAL PROCESS MAPPING

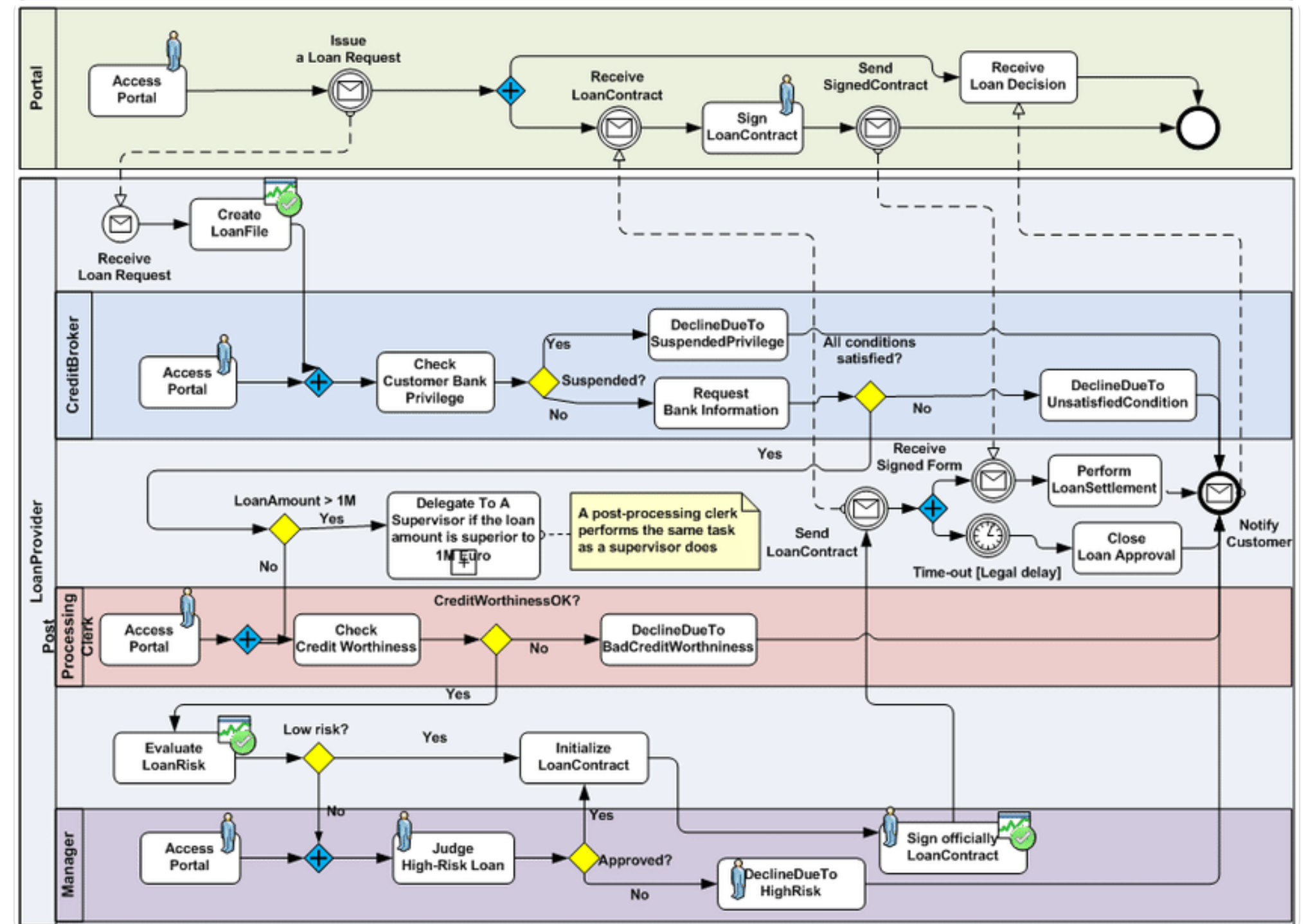
Interviews
Observations

SLOW

EXPENSIVE

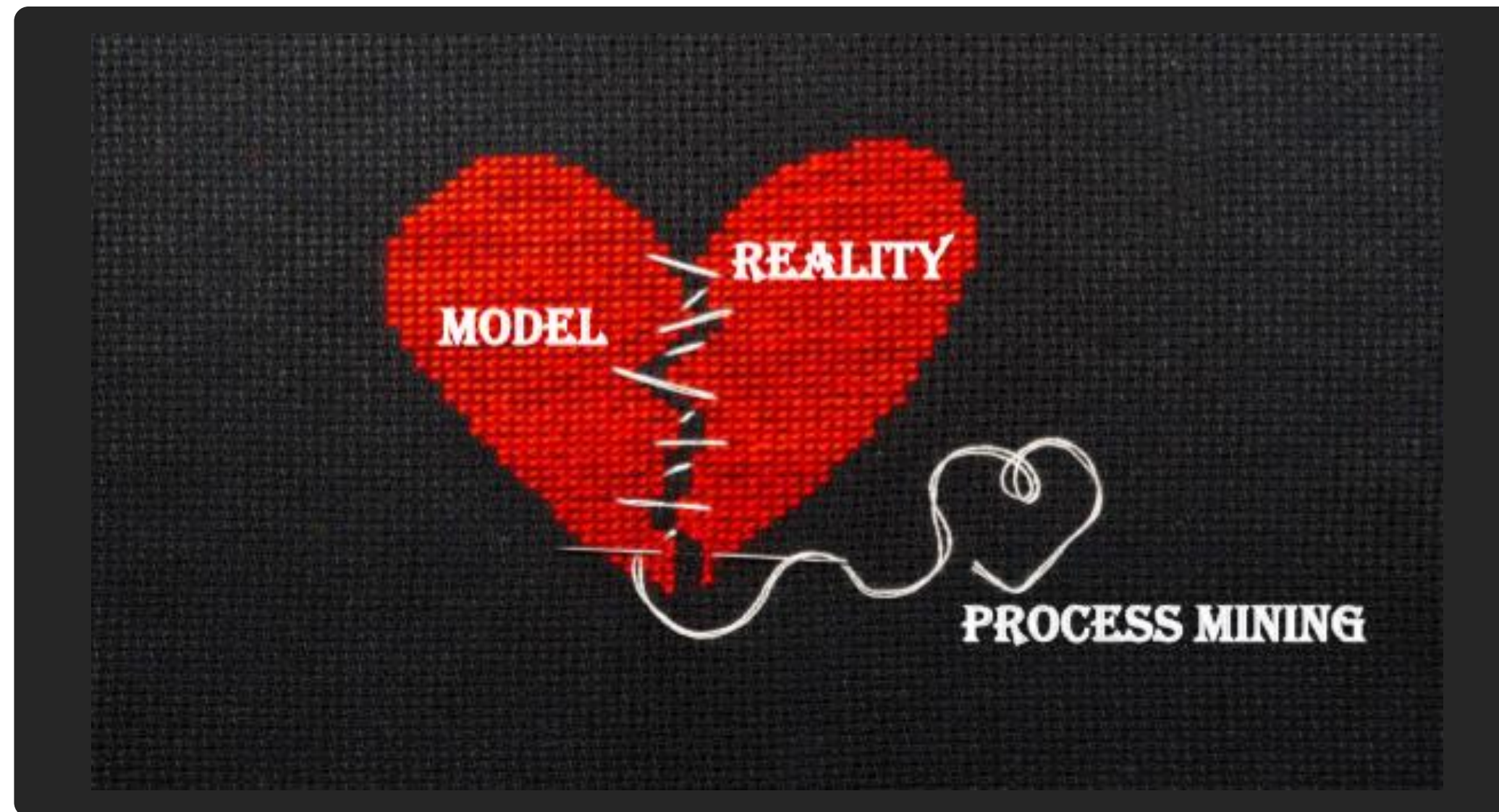
DISCONNECTED

Drawn by hand, out of date the day it was signed off.



MODEL VS. REALITY

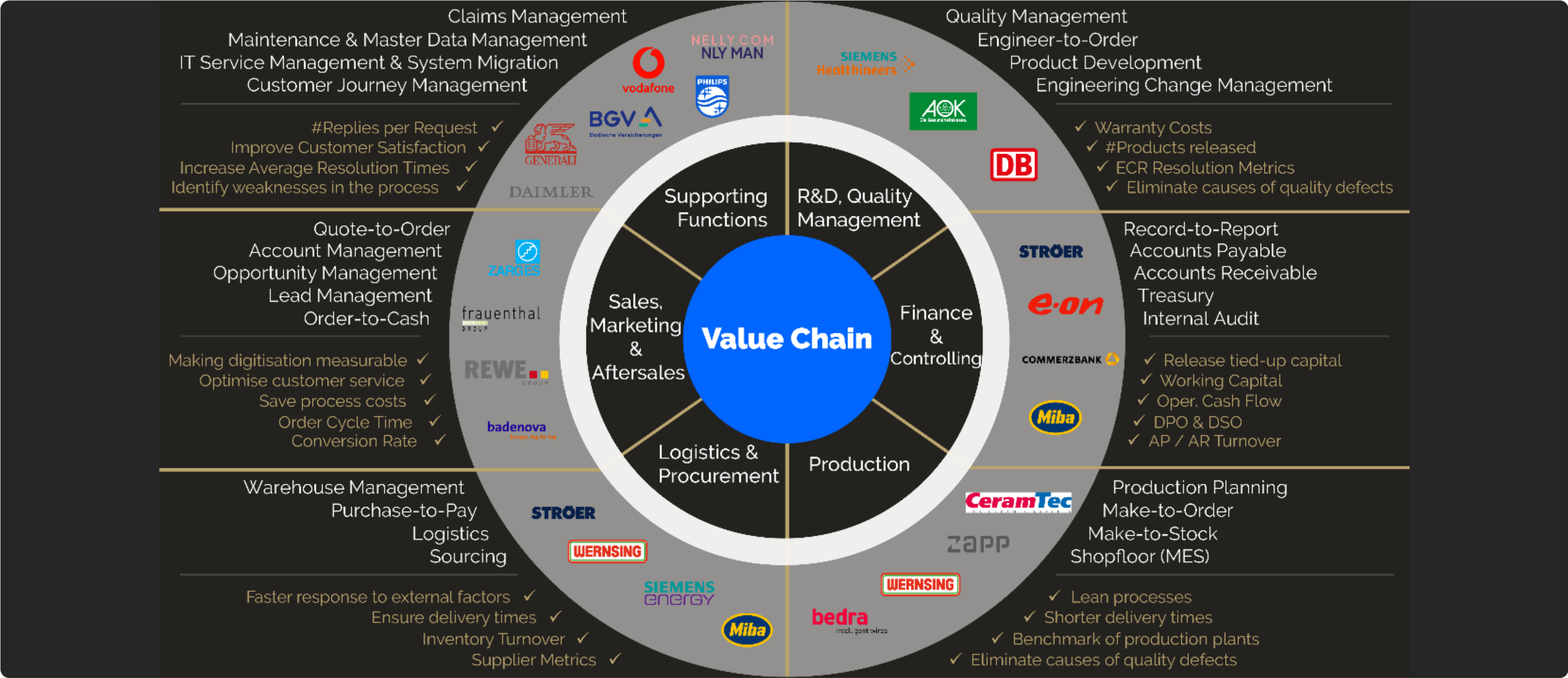
PROCESS MINING IS A BRIDGE BETWEEN MODEL AND REALITY



Source: Wil van der Aalst – Process Mining, BPM on Steroids



PROCESS MINING SUPPORTS THE ENTIRE VALUE CHAIN



BUSINESS CASE

SAVINGS POTENTIAL – AUTOMATION & REWORK

TOTAL P.A.
€1,940,815

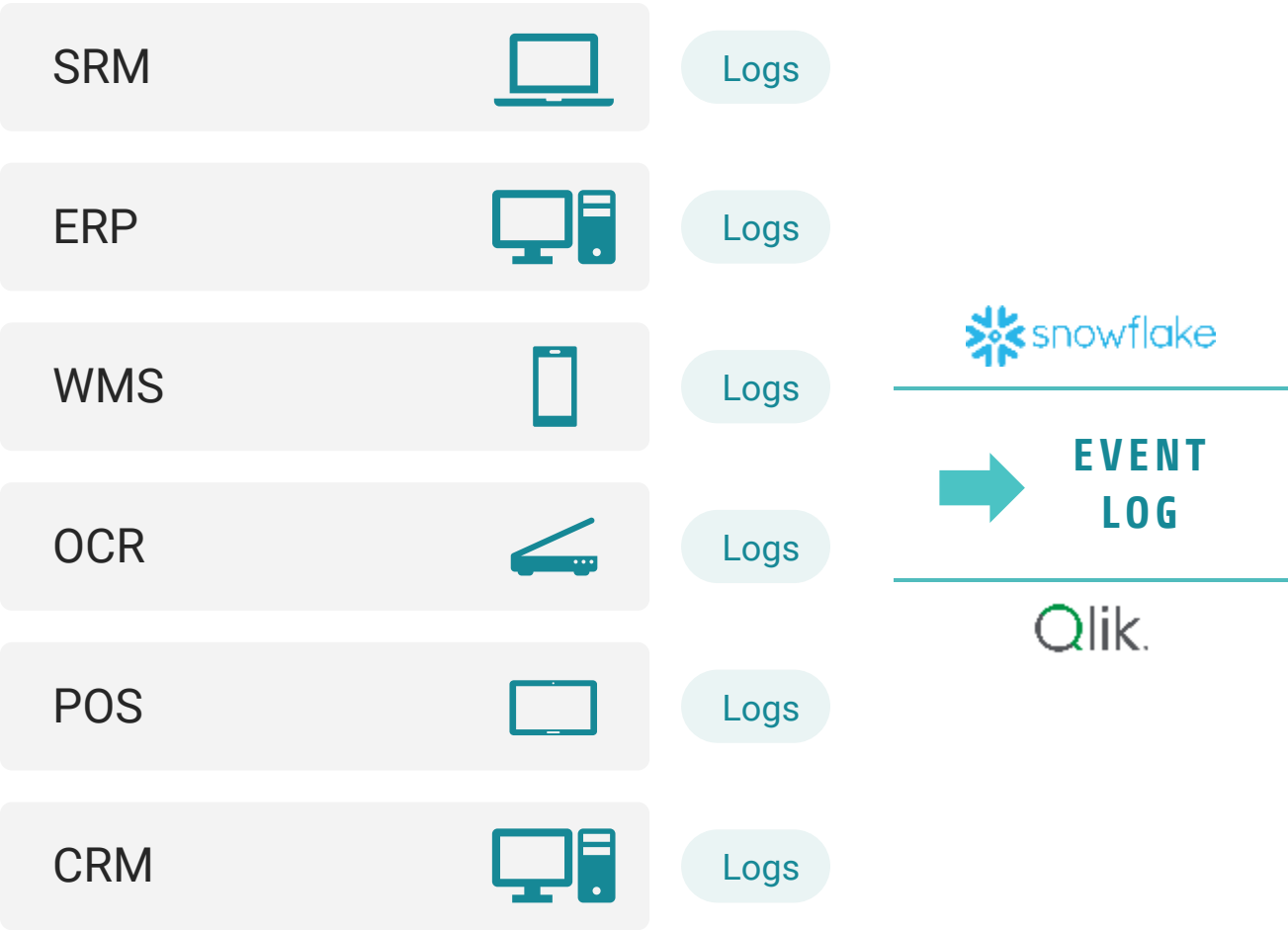
Event Type	Automation Ratio	Saving Potential	Effort per Event* (min)	Event Occurrence	Total Saving Potential (min)**	Total Saving Potential (€)***
Create PR from planning order	0%	50%	10	134	670	412
Create PR from production order	55%	50%	10	33,295	74,914	46,112
Create PR from sales order	56%	50%	10	3,695	8,129	5,004
Create PR manually	0%	50%	10	7,314	36,570	22,510
Create Purchase Order man	0%	10%	20	113,844	227,688	140,149
Delete Purchase Order Item	1%	20%	20	8,342	33,034	20,334
Purchase Order Item later added	0%	20%	20	5,341	21,364	13,150
Receive Goods	12%	50%	5	532,737	1,172,021	721,415
Receive Invoice (MM)	44%	30%	10	531,313	892,606	549,426
Receive Order Confirmation	61%	30%	10	311,201	364,105	224,118
Send Purchase Order (FAX)	1%	50%	5	82,571	204,363	125,792
Send Purchase Order (PRINT)	0%	50%	25	9,409	117,613	72,394

TOTAL P.A. **€1,940,815**



SOURCE DATA

AN EVENT LOG CAN BE CREATED FROM MULTIPLE SOURCES



PO Item (CaseID)	Activity Type	User	Activity Start Timestamp	Activity End Timestamp
4507000223_00010	Create Purchase Order Item	batch_03	2018-01-02 03:43:00	2018-01-02 03:43:00
4507000223_00010	Receive Order Confirmation	user_029	2018-01-02 09:45:00	2018-01-02 09:45:00
4507000223_00010	Record Goods Receipt	user_030	2018-01-03 11:31:00	2018-01-03 11:31:00
4507000223_00010	Vendor creates invoice	NONE	2018-01-03 23:59:00	2018-01-03 23:59:00
4507000223_00010	Record Invoice Receipt	user_004	2018-01-04 16:34:00	2018-01-04 16:34:00
4507000223_00010	Clear Invoice	user_002	2018-03-29 15:08:00	2018-03-29 15:08:00
4507000225_00020	Create Purchase Order Item	batch_04	2018-01-02 04:20:00	2018-01-02 04:20:00
4507000225_00020	Record Goods Receipt	user_032	2018-01-23 17:07:00	2018-01-23 17:07:00
4507000225_00020	Vendor creates invoice	NONE	2018-01-25 23:59:00	2018-01-25 23:59:00
4507000225_00020	Record Invoice Receipt	user_007	2018-02-01 14:26:00	2018-02-01 14:26:00
4507000225_00020	Clear Invoice	user_002	2018-02-22 16:17:00	2018-02-22 16:17:00
4507026134_00150	Create Purchase Order Item	user_040	2018-04-30 08:44:00	2018-04-30 08:44:00
4507026134_00150	Vendor creates invoice	NONE	2018-04-30 23:59:00	2018-04-30 23:59:00
4507026134_00150	Record Goods Receipt	user_029	2018-05-01 17:32:00	2018-05-01 17:32:00
4507026134_00150	Record Invoice Receipt	user_013	2018-05-15 15:19:00	2018-05-15 15:19:00
4507026134_00150	Clear Invoice	user_002	2018-06-07 13:13:00	2018-06-07 13:13:00
4508076155_00070	Vendor creates invoice	NONE	2018-03-06 23:59:00	2018-03-06 23:59:00
4508076155_00070	Create Purchase Order Item	user_602	2018-07-18 09:04:00	2018-07-18 09:04:00
4508076155_00070	Change Approval for Purchase Order	user_603	2018-07-18 16:13:00	2018-07-18 16:13:00
4508076155_00070	Record Invoice Receipt	user_359	2018-07-19 13:27:00	2018-07-19 13:27:00
4508076155_00070	Change Approval for Purchase Order	user_602	2018-07-25 10:20:00	2018-07-25 10:20:00
4508076155_00070	Change Approval for Purchase Order	user_603	2018-07-25 12:29:00	2018-07-25 12:29:00
4508076155_00070	Clear Invoice	user_604	2018-08-01 17:33:00	2018-08-01 17:33:00

Just a few columns are enough to create a process chart!



PROCESS MINING CLIENT SURVEY

Fig. 3 – Expectations towards Process Mining

What do you expect from process mining? (Multiple answers)

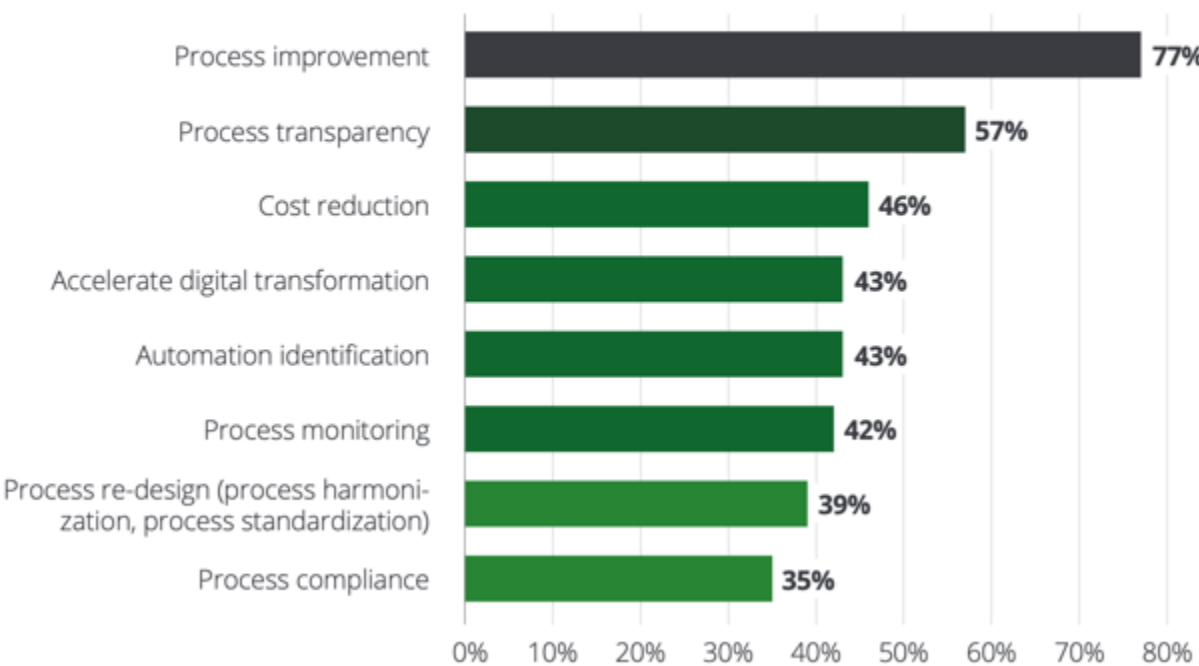
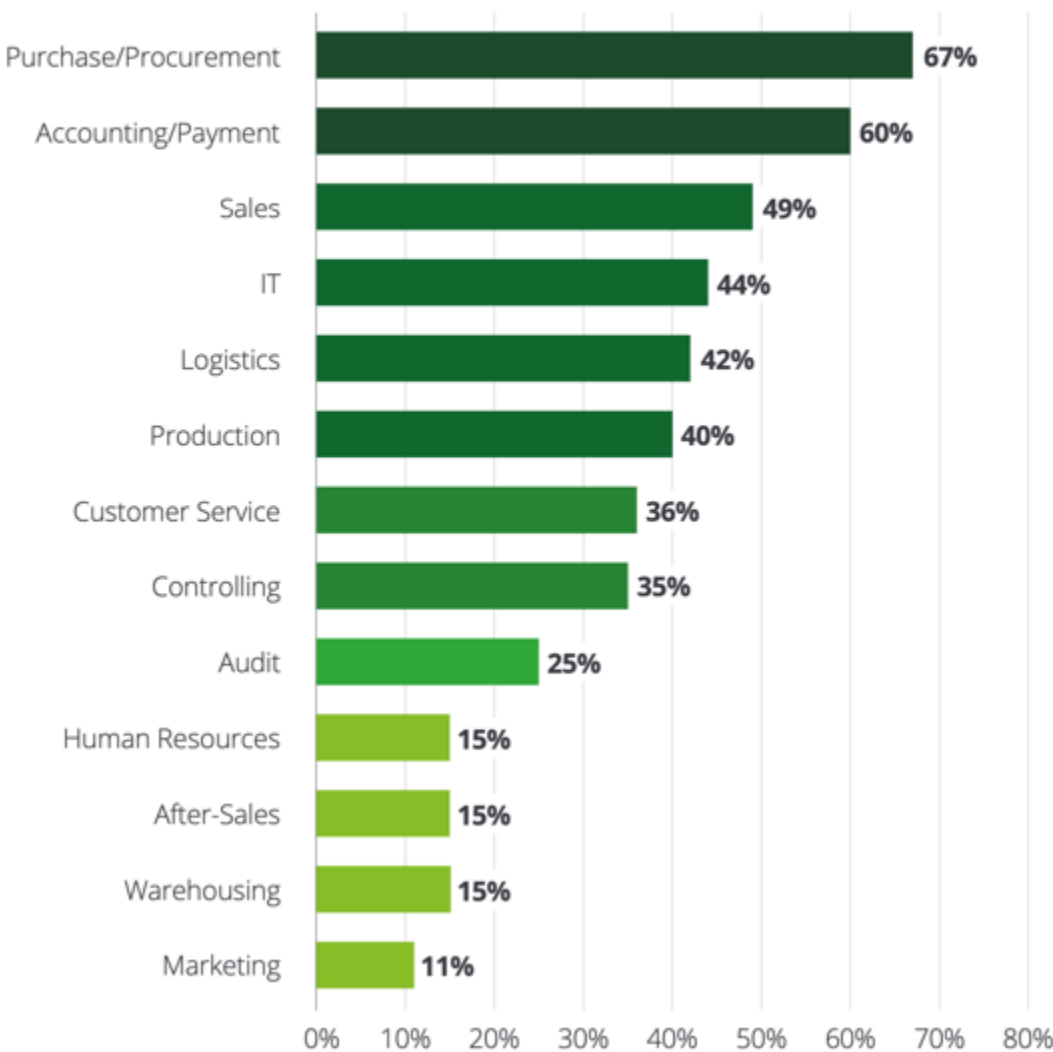


Fig. 9 – Areas of Process Mining application

In which areas do you utilize process mining? (Multiple answers)



Questions?

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