

# Analysis of domestic and international travel of employees Eindhoven University of Technology (TU / e) in 2017-2018 using Process Mining.

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**Abstract.** Employees travel for work in many organizations, i.e. they travel to clients, to conferences, or project meetings — and these trips are sometimes expensive. As an employee of the organization, you do not need to pay for your own travel, but the company does. Two types of travel were identified: domestic and international.

Prior authorization is not required for domestic travel: an employee can make these trips and subsequently claim reimbursement.

Supervisor approval is required for international travel. This authorization is obtained by filing a travel authorization and this travel authorization must be approved before any action is taken.

A claim is filed to reimburse the travel expenses. This can be done immediately after the actual payment of expenses (for example, for flight or registration for a conference) or within two months after the trip (for example, hotel and food expenses, which are usually paid locally).

## Introduction.

This year's Business Process Intelligence Challenge collected data on the TU / e reimbursement process. The files contain data for 2017 (two departments in total) and for 2018 full technical specifications / e.

The data is divided into travel permissions and several types of requests, specifically internal declarations, international declarations, prepaid travel expenses and requests for payment, where the latest refers to non-travel expenses.

## Understanding data and process flow.

Various declaration documents (domestic and international declarations, travel prepayments and payment requests) go through a similar process. After submission by the employee, the request is sent for approval to the tourist administration. If approved, the request is sent to the budget holder and then to the manager. If the budget manager and the curator are the same person, then only one of these steps will be taken. In some cases, the director must also approve the request.

In all cases, rejection has one of two results. Either the employee resubmits the request, or the employee also rejects the request.

If the approval process is successful, payment is requested and made.

The procedure for issuing travel permits is slightly different, as there is no charge. Instead, after all approval steps, a trip may take place with an estimated start and end date. These dates are not exact travel dates, but rather are assumed by the employee when applying for permission. Actual travel dates are not recorded in the data, but in most cases they should be close to the dates shown.

After the end of the business trip, the employee receives several reminders about the filing of the travel declaration. After the travel authorization has been approved, but prior to travel, employees may claim prepaid travel expenses. Several requests can be submitted independently of each other. At the end of the trip, an international declaration can be submitted, although sometimes several declarations may be seen for specific cases.

## Questions that are covered in this work.

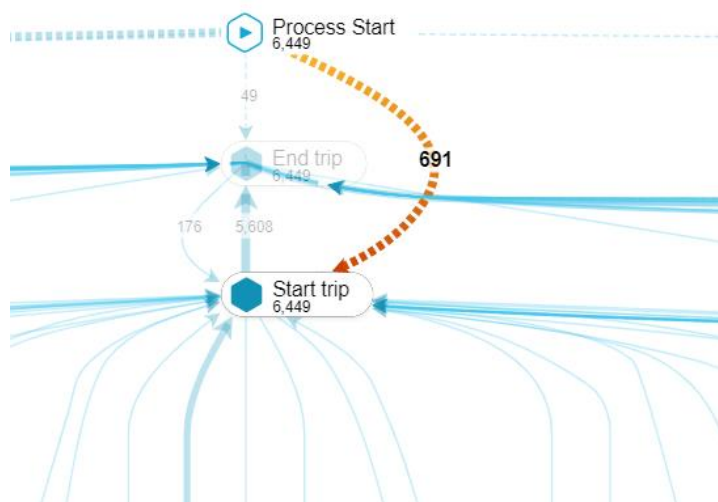
### Traveling abroad without prior permission.

During the study of the process graph, it was found that there are still cases of travel abroad without prior permission. Such cases start immediately with the Start Trip - End Trip link, after which a permission is obtained and a declaration for reimbursement of expenses is submitted.

Statistics:

- 691 cases - in violation of the order (first makes a trip, then - asks for permission), of which
  - 443 - applied for a permission after the end of the trip,
  - 248 - after the start of the trip.

- 447 cases - did not apply for a permit at all (submit a declaration - received payments and traveled). Basically, trips take place strictly in the period from 04/10/2018 to 04/13/2018, and declarations were submitted and payments were received somewhere in the early to mid-2017.



Picture 1.

How many declarations are ever rejected in the process, and how many are never approved. Using filters, we get the following statistics:

**Internal declarations:**

- in 1301 cases the declaration was ever rejected,
- in 230 cases it was never approved.

**International declarations:**

- ever deviated in 1576 cases,
- at 190 it was never approved.

Declarations that were not approved by BUDGET\_OWNER within 7 days and were forwarded to the manager.

The manager can make three decisions - APPROVED, FINAL\_APPROVED, and REJECTED.

Using filters, we select the cases we need (cases that bypass BUDGET\_OWNER and the duration of these bypasses is from 7 days and more) and get the following statistics:

**Internal declarations:**

- A total of 464 cases.
- Of these, the head:
- 11 declarations - approved,
- 18 - rejected,
- 435 - finally approved.

**International declarations.**

- A total of 242 cases.
- Of these, the head:
- 235 applications - finally approved,
- 7 applications - rejected.

**Bottlenecks in the process with declarations**

There are supposedly two criteria for bottlenecks (bottlenecks in the process that cause system delays in the process):

First, it takes a long time to complete the transition between stages.

The second is consistency (high frequency of such transitions).

**International declarations.**

Initially, we have such a list of transitions between stages with a median execution time and frequency of occurrence in cases.

Source	Target	# Occurrences	Total throughput time in h...
Request Payment	Payment Handled	6148	3.22 days
Declaration FINAL_APPROVED by SUPERVISOR	Request Payment	5917	1.19 days
Start trip	End trip	5608	4.00 days
Declaration SUBMITTED by EMPLOYEE	Declaration APPROVED by ADMINISTRATION	4952	0.00 days
Permit SUBMITTED by EMPLOYEE	Permit APPROVED by ADMINISTRATION	4829	0.00 days
End trip	Declaration SUBMITTED by EMPLOYEE	4514	5.66 days
Permit FINAL_APPROVED by SUPERVISOR	Start trip	4122	28.13 days
Declaration APPROVED by ADMINISTRATION	Declaration FINAL_APPROVED by SUPERVISOR	2959	1.11 days
Permit APPROVED by ADMINISTRATION	Permit FINAL_APPROVED by SUPERVISOR	2563	0.89 days
Declaration APPROVED by ADMINISTRATION	Declaration APPROVED by BUDGET OWNER	1815	1.08 days
Declaration APPROVED by BUDGET OWNER	Declaration FINAL_APPROVED by SUPERVISOR	1745	2.00 days
Permit APPROVED by ADMINISTRATION	Permit APPROVED by BUDGET OWNER	1672	0.88 days
Declaration REJECTED by EMPLOYEE	Declaration SUBMITTED by EMPLOYEE	1601	0.12 days
Declaration SUBMITTED by EMPLOYEE	Declaration REJECTED by ADMINISTRATION	1517	0.01 days
Declaration REJECTED by ADMINISTRATION	Declaration REJECTED by EMPLOYEE	1510	1.81 days
Permit APPROVED by BUDGET OWNER	Permit FINAL_APPROVED by SUPERVISOR	1415	2.06 days
Permit FINAL_APPROVED by SUPERVISOR	Declaration SUBMITTED by EMPLOYEE	776	6.20 days
Declaration SUBMITTED by EMPLOYEE	Declaration FINAL_APPROVED by SUPERVISOR	702	0.00 days
Permit APPROVED by SUPERVISOR	Permit FINAL_APPROVED by DIRECTOR	610	0.93 days
Declaration SUBMITTED by EMPLOYEE	Declaration APPROVED by PRE_APPROVER	604	0.00 days
Declaration APPROVED by PRE_APPROVER	Declaration FINAL_APPROVED by SUPERVISOR	582	0.92 days
Permit SUBMITTED by EMPLOYEE	Permit FINAL_APPROVED by SUPERVISOR	582	0.00 days
Permit SUBMITTED by EMPLOYEE	Permit APPROVED by PRE_APPROVER	530	0.00 days
Permit FINAL_APPROVED by DIRECTOR	Start trip	493	43.30 days
Permit APPROVED by PRE_APPROVER	Permit FINAL_APPROVED by SUPERVISOR	479	0.95 days

Picture 2.

As you can see, the longest transitions go to / from the Start Trip and End Trip stages. But the transitions to Start Trip and the transition Start Trip-End Trip should not be considered as a bottleneck, since waiting for the trip itself and being in the process of the trip is not a direct part of the process in which you can identify critical shortcomings in the time of completing important stages of the process.

Let's apply filters and exclude the transitions indicated above:

Source	Target	# Occurrences	Total throughput time in h...
Request Payment	Payment Handled	6148	3.22 days
Declaration FINAL_APPROVED by SUPERVISOR	Request Payment	5917	1.19 days
Declaration SUBMITTED by EMPLOYEE	Declaration APPROVED by ADMINISTRATION	4952	0.00 days
Permit SUBMITTED by EMPLOYEE	Permit APPROVED by ADMINISTRATION	4829	0.00 days
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Permit SUBMITTED by EMPLOYEE	Permit APPROVED by PRE_APPROVER	530	0.00 days
Permit APPROVED by PRE_APPROVER	Permit FINAL_APPROVED by SUPERVISOR	479	0.95 days
End trip	Permit SUBMITTED by EMPLOYEE	443	9.51 days
Send Reminder	Declaration SUBMITTED by EMPLOYEE	378	8.22 days
End trip	Send Reminder	282	43.25 days

Picture 3.

Let us take as a threshold a duration of more than 2 days and a frequency of more than 200 cases.

Narrow places:

Request Payment - Payment Handled.

End Trip - Declaration Submitted by Employee.

Declaration Approved by BUDGET\_OWNER - Declaration FINAL\_APPROVED by SUPERVISOR.

Permit Approved by BUDGET\_OWNER - Permit FINAL\_APPROVED by SUPERVISOR.  
 End trip - Permit Submitted by EMPLOYEE.  
 Send Reminder - Declaration Submitted by EMPLOYEE.

### Domestic declarations.

Narrow places: Request Payment - Payment Handled.

Throughput Time per Connection			
Source	Target	# Occurrences	Total throughput time in ...
Declaration FINAL_APPROVED by SUPERVISOR	Request Payment	10034	114 days
Request Payment	Payment Handled	10033	3.24 days
Declaration SUBMITTED by EMPLOYEE	Declaration APPROVED by ADMINISTRATION	8202	0.00 days
Declaration APPROVED by ADMINISTRATION	Declaration FINAL_APPROVED by SUPERVISOR	5133	0.87 days
Declaration APPROVED by ADMINISTRATION	Declaration APPROVED by BUDGET OWNER	2820	0.87 days
Declaration APPROVED by BUDGET OWNER	Declaration FINAL_APPROVED by SUPERVISOR	2784	1.91 days
Declaration SUBMITTED by EMPLOYEE	Declaration FINAL_APPROVED by SUPERVISOR	1536	0.00 days
Declaration REJECTED by EMPLOYEE	Declaration SUBMITTED by EMPLOYEE	1081	0.20 days
Declaration SUBMITTED by EMPLOYEE	Declaration REJECTED by ADMINISTRATION	952	0.00 days
Declaration REJECTED by ADMINISTRATION	Declaration REJECTED by EMPLOYEE	928	0.92 days
Declaration SUBMITTED by EMPLOYEE	Declaration APPROVED by PRE_APPROVER	685	0.00 days
Declaration APPROVED by PRE_APPROVER	Declaration FINAL_APPROVED by SUPERVISOR	674	0.90 days
Declaration REJECTED by SUPERVISOR	Declaration REJECTED by EMPLOYEE	286	1.05 days
Declaration APPROVED by ADMINISTRATION	Declaration REJECTED by SUPERVISOR	190	0.95 days
Declaration FINAL_APPROVED by SUPERVISOR	Declaration REJECTED by MISSING	86	3.07 days
Declaration SUBMITTED by EMPLOYEE	Declaration REJECTED by PRE_APPROVER	86	0.00 days
Declaration REJECTED by PRE_APPROVER	Declaration REJECTED by EMPLOYEE	85	0.92 days
Declaration REJECTED by MISSING	Declaration SUBMITTED by EMPLOYEE	61	0.42 days
Declaration SUBMITTED by EMPLOYEE	Declaration REJECTED by SUPERVISOR	60	0.00 days
Declaration APPROVED by ADMINISTRATION	Declaration REJECTED by BUDGET OWNER	59	0.41 days
Declaration REJECTED by BUDGET OWNER	Declaration REJECTED by EMPLOYEE	58	1.03 days
Declaration APPROVED by BUDGET OWNER	Declaration REJECTED by SUPERVISOR	32	4.04 days
Declaration REJECTED by ADMINISTRATION	Declaration SUBMITTED by EMPLOYEE	19	0.95 days
Declaration FINAL_APPROVED by SUPERVISOR	Payment Handled	11	48.25 days
Declaration APPROVED by PRE_APPROVER	Declaration REJECTED by SUPERVISOR	11	2.09 days
Declaration SUBMITTED by EMPLOYEE	Declaration REJECTED by EMPLOYEE	7	0.00 days

Picture 4.

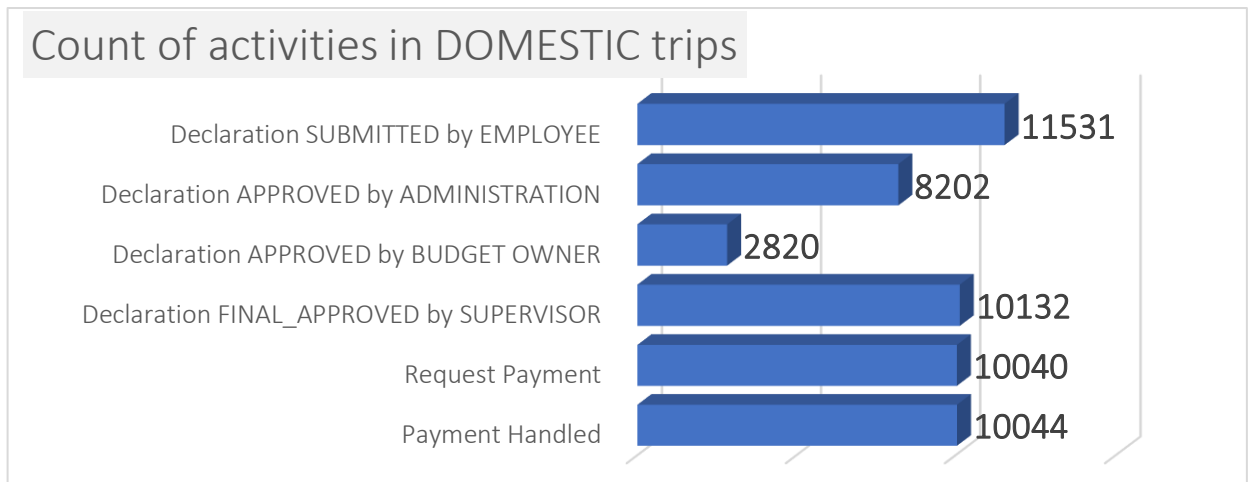
In total, to summarize, the bottlenecks are due to the long processing of the payment for the trip, the long filing of the declaration by the employee after the trip and the long final approval of the declaration by the manager (comparatively).

### Is there is any difference in throughput between national and international trips?

Yes, there is difference between domestic and international trips:

CONCEPT_NAME	COUNT(*)
Declaration SUBMITTED by EMPLOYEE	11531
Declaration APPROVED by ADMINISTRATION	8202
Declaration APPROVED by BUDGET OWNER	2820
Declaration FINAL_APPROVED by SUPERVISOR	10132
Request Payment	10040
Payment Handled	10044
Declaration APPROVED by PRE_APPROVER	685
Declaration SAVED by EMPLOYEE	135
Declaration FOR_APPROVAL by SUPERVISOR	1
Declaration FOR_APPROVAL by PRE_APPROVER	1
Declaration FOR_APPROVAL by ADMINISTRATION	1

Picture 5.



Picture 6.

CONCEPT_NAME	COUNT(*)
Declaration SUBMITTED by EMPLOYEE	8099
Start trip	6449
End trip	6449
Боковая стенка	
Permit SUBMITTED by EMPLOYEE	6255
Payment Handled	6187
Request Payment	6183
Declaration FINAL_APPROVED by SUPERVISOR	6039
Permit FINAL_APPROVED by SUPERVISOR	5381
Declaration APPROVED by ADMINISTRATION	5037
Permit APPROVED by ADMINISTRATION	4839
Declaration APPROVED by BUDGET OWNER	1834
Permit APPROVED by BUDGET OWNER	1763
Permit APPROVED by SUPERVISOR	641
Permit FINAL_APPROVED by DIRECTOR	640
Declaration APPROVED by PRE_APPROVER	612
Permit APPROVED by PRE_APPROVER	534
Send Reminder	434
Declaration APPROVED by SUPERVISOR	256
Declaration FINAL_APPROVED by DIRECTOR	252
Declaration SAVED by EMPLOYEE	75

Picture 7.

What is the throughput in each of the process steps, i.e. submission, judgement by various responsible roles and payment?

Look at the picture below.

	ORG_ROLE	NAME_OF_ACTIONS	COUNT_OF_ACTIVITIES_IN_EVERY_ROLE_IN_PERCENT	COUNT_ROLE_IN_PROCESS_IN_PERCENT
1	ADMINISTRATION	Declaration APPROVED by ADMINISTRATION	44%	16%
2	ADMINISTRATION	Declaration REJECTED by ADMINISTRATION	13%	16%
3	ADMINISTRATION	Permit APPROVED by ADMINISTRATION	42%	16%
4	ADMINISTRATION	Permit REJECTED by ADMINISTRATION	1%	16%
5	BUDGET OWNER	Declaration APPROVED by BUDGET OWNER	50%	5%
6	BUDGET OWNER	Declaration REJECTED by BUDGET OWNER	1%	5%
7	BUDGET OWNER	Permit APPROVED by BUDGET OWNER	48%	5%
8	BUDGET OWNER	Permit REJECTED by BUDGET OWNER	1%	5%
9	DIRECTOR	Declaration FINAL_APPROVED by DIRECTOR	28%	1%
10	DIRECTOR	Declaration REJECTED by DIRECTOR	0%	1%
11	DIRECTOR	Permit FINAL_APPROVED by DIRECTOR	71%	1%
12	DIRECTOR	Permit REJECTED by DIRECTOR	0%	1%
13	EMPLOYEE	Declaration REJECTED by EMPLOYEE	6%	41%
14	EMPLOYEE	Declaration SAVED by EMPLOYEE	0%	41%
15	EMPLOYEE	Declaration SUBMITTED by EMPLOYEE	28%	41%
16	EMPLOYEE	End trip	22%	41%
17	EMPLOYEE	Permit REJECTED by EMPLOYEE	1%	41%
18	EMPLOYEE	Permit SUBMITTED by EMPLOYEE	21%	41%
19	EMPLOYEE	Start trip	22%	41%
20	MISSING	Declaration REJECTED by MISSING	71%	0%
21	MISSING	Permit REJECTED by MISSING	29%	0%
22	PRE_APPROVER	Declaration APPROVED by PRE_APPROVER	49%	2%
23	PRE_APPROVER	Declaration REJECTED by PRE_APPROVER	7%	2%
24	PRE_APPROVER	Permit APPROVED by PRE_APPROVER	43%	2%
25	PRE_APPROVER	Permit REJECTED by PRE_APPROVER	2%	2%
26	SUPERVISOR	Declaration APPROVED by SUPERVISOR	2%	17%
27	SUPERVISOR	Declaration FINAL_APPROVED by SUPERVISOR	48%	17%
28	SUPERVISOR	Declaration REJECTED by SUPERVISOR	1%	17%
29	SUPERVISOR	Permit APPROVED by SUPERVISOR	5%	17%
30	SUPERVISOR	Permit FINAL_APPROVED by SUPERVISOR	43%	17%
31	SUPERVISOR	Permit REJECTED by SUPERVISOR	1%	17%
32	UNDEFINED	Payment Handled	48%	18%
33	UNDEFINED	Request Payment	48%	18%
34	UNDEFINED	Send Reminder	3%	18%

Picture 8.

What is the throughput in each of the process steps, i.e. submission, judgement by various responsible roles and payment?

Look at the picture below.

	ORG_ROLE	NAME_OF_ACTIONS	COUNT_OF_ACTIVITIES_IN_EVERY_ROLE_IN_PERCENT	COUNT_ROLE_IN_PROCESS_IN_PERCENT
1	ADMINISTRATION	Declaration APPROVED by ADMINISTRATION	90%	16%
2	ADMINISTRATION	Declaration REJECTED by ADMINISTRATION	10%	16%
3	ADMINISTRATION	Declaration FOR_APPROVAL by ADMINISTRATION	0%	16%
4	BUDGET OWNER	Declaration APPROVED by BUDGET OWNER	98%	5%
5	BUDGET OWNER	Declaration REJECTED by BUDGET OWNER	2%	5%
6	EMPLOYEE	Declaration SUBMITTED by EMPLOYEE	88%	23%
7	EMPLOYEE	Declaration REJECTED by EMPLOYEE	10%	23%
8	EMPLOYEE	Declaration SAVED by EMPLOYEE	1%	23%
9	PRE_APPROVER	Declaration APPROVED by PRE_APPROVER	89%	1%
10	PRE_APPROVER	Declaration FOR_APPROVAL by PRE_APPROVER	0%	1%
11	PRE_APPROVER	Declaration REJECTED by PRE_APPROVER	11%	1%
12	SUPERVISOR	Declaration FINAL_APPROVED by SUPERVISOR	97%	18%
13	SUPERVISOR	Declaration REJECTED by SUPERVISOR	3%	18%
14	SUPERVISOR	Declaration FOR_APPROVAL by SUPERVISOR	0%	18%
15	SYSTEM STEPS	Request Payment	50%	36%
16	SYSTEM STEPS	Payment Handled	50%	36%
17	SYSTEM STEPS	Declaration REJECTED by MISSING	0%	36%

Picture 9.

### How many corrections were made to declarations?

Here is some misunderstanding related to the corrections in declarations. There are 2 ways we can suppose:

1. correction became the correction from the question, even step 'rejected' is the last in declaration (after some rejects employee stopped filling the declaration). This is the point 1 at the picture;
2. correction has been completed when activity has next step after step 'rejected'. In other words step 'rejected' is not the last step in declaration (look at the point 2 at the picture below).

We think that answer is 2462 in domestic and 3950 in international declarations, because the correction word implied some acts after reject.

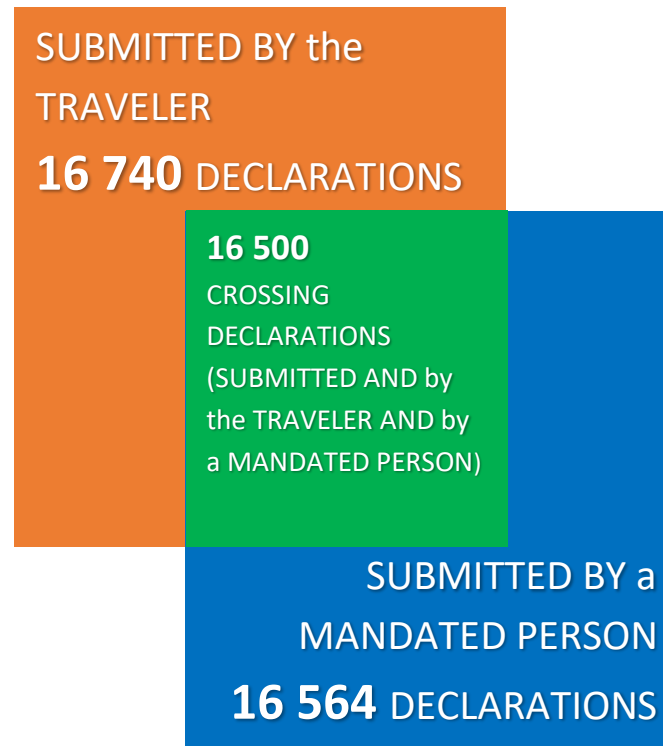
	COMMENTS	IS_CORRECTION_AND_NOT_LAST_STEP
1	COUNT OF ALL -REJECTED- STEPS, EVEN IF STEP -REJECTED- IS THE LAST IN DECLARATION	2755
2	COUNT OF CORRECTIONS (WHEN STEP -REJECTED- IS NOT THE LAST STEP IN DECLARATION	2462
	COMMENTS	IS_CORRECTION_AND_NOT_LAST_STEP
1	COUNT OF ALL -REJECTED- STEPS, EVEN IF STEP -REJECTED- IS THE LAST IN DECLARATION	4089
2	COUNT OF CORRECTIONS (WHEN STEP -REJECTED- IS NOT THE LAST STEP IN DECLARATION	3950

Picture 10.

**How many travel declarations are submitted by a traveler and how many by a mandated person.**

Totally 16740 declarations are submitted by a traveler, 16564 declarations are submitted by a mandated person. But 240 declarations are submitted ONLY by a traveler (without a mandated person), and 64 declarations are submitted by a mandated person (without a traveler submit).

	SUBMITTED_STAFF		CNT_DECLARATIONS
1	SUBMITTED by TRAVELER	...	16740
2	SUBMITTED by a MANDATED PERSON	...	16564
3	INNER JOIN	...	16500



Picture 11.

Share and count of rejected actions.

Look at the picture below.

	TYPE_ACTIONS	CNT_ACTIONS	SHARE_OF_ACTIONS_IN_PERCENT
1	Rejected actions	7038	5
2	Other actions	121551	95

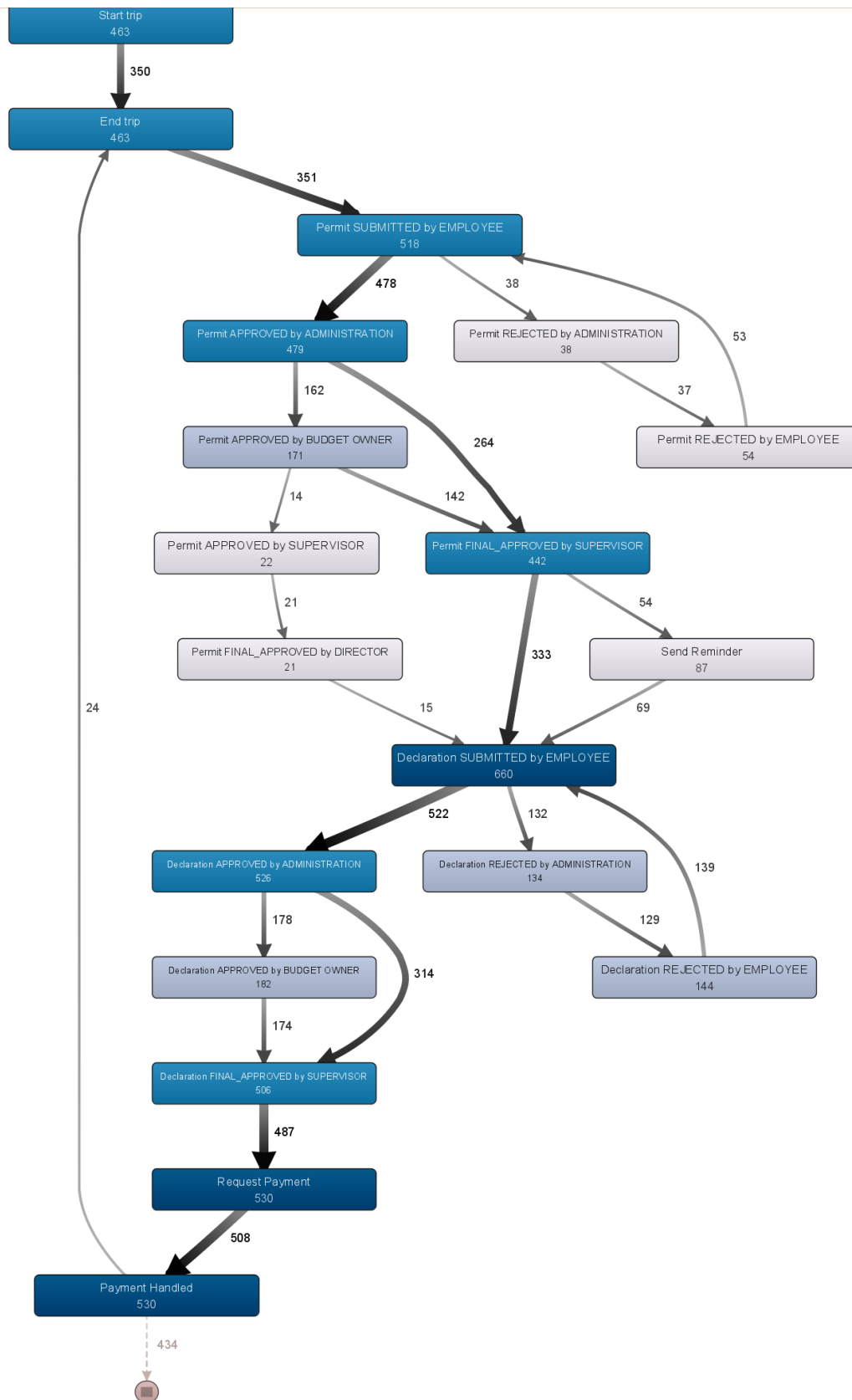
Picture 12.



### International travel commenced prior to authorization.

Identified international travel and declarations, in which the start of the trip was before the date of filing a permit for this trip:

463 out of 4467 (trips for 2018 were taken, which were paid as a result).



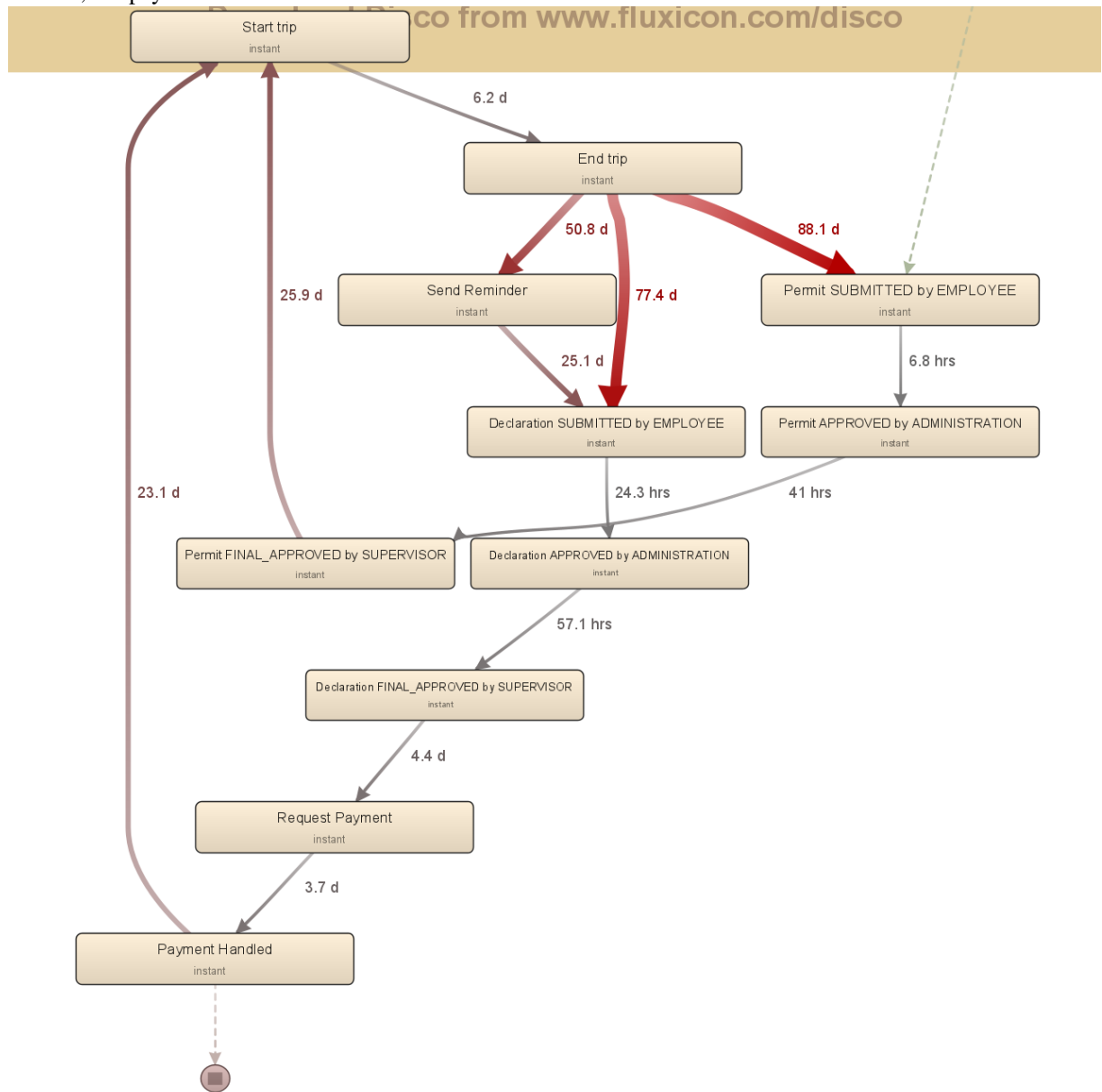
Picture 13.





### Declarations sent 60 days after the end of the trip.

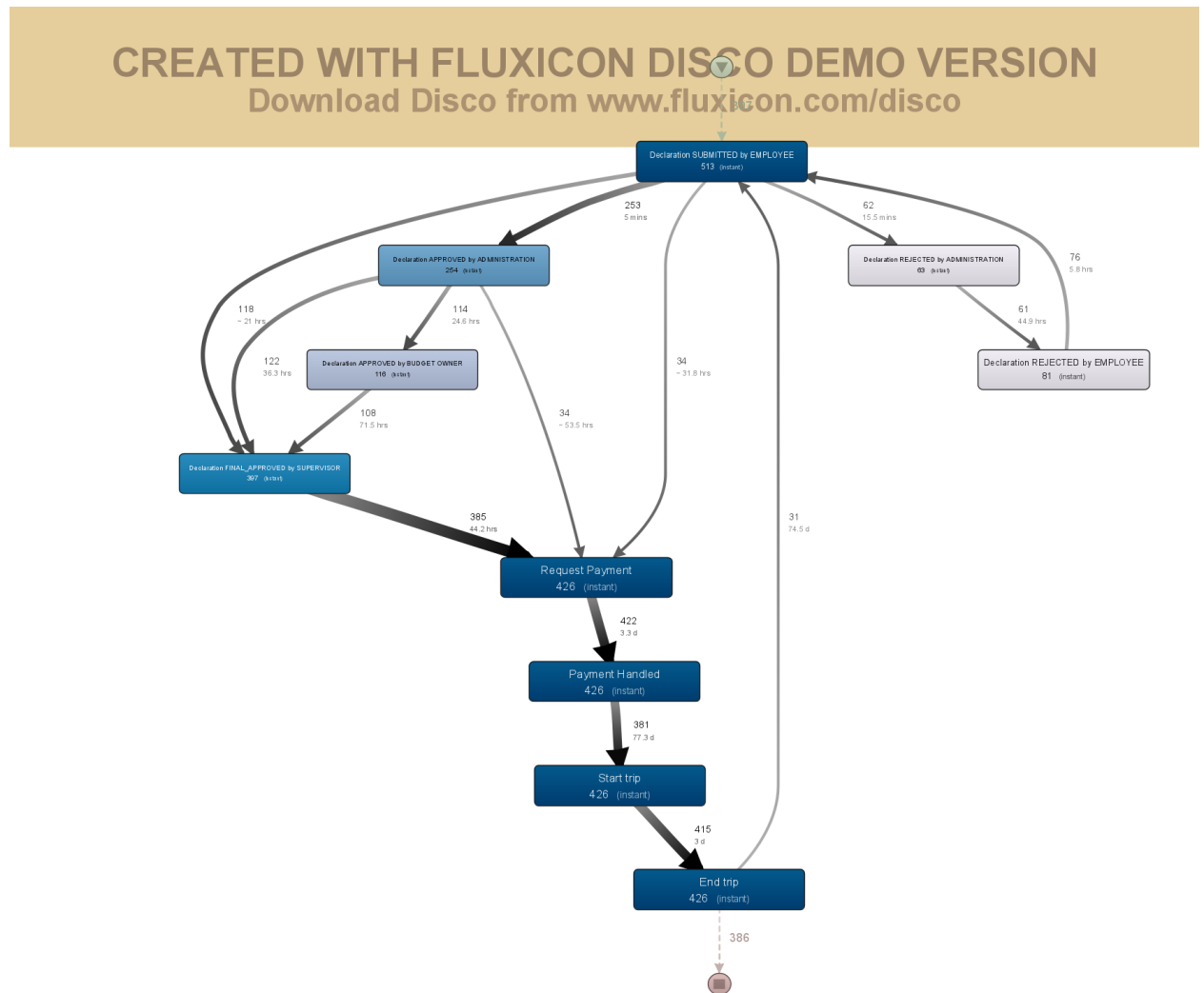
348 declarations were identified, which were sent 60 days after the end of the trip, and at the same time they were paid out of 4467 (trips for 2018 were taken, which were paid as a result). However, 141 out of 348 were rejected the first time, but payments were still made in the end.



Picture 14.

### International declarations filed without the prior authorization.

426 international declarations (out of 6449) were filed without the prior permission for international travel, which contradicts the process of organizing international business trips.



Picture 15.

**Declaration amounts for organization.**

«Organizational unit 65466» can be seen to spend the most money on travel arrangements. On average, 9868.62, and is well ahead of the second-largest «organizational unit 65480» with an average of 2068.73.

case OrganizationalEntity	summ	avgg	cnt
organizational unit 65466	39129064	9868,616393	3965
organizational unit 65480	328929	2068,735849	159
organizational unit 65488	15290	1529	10
organizational unit 65468	161668	1469,709091	110
organizational unit 65460	10445958	1430,169496	7304
organizational unit 65459	8905397	1194,393374	7456
organizational unit 65456	15621911	1161,135053	13454
organizational unit 65454	8784464	1114,214105	7884
organizational unit 65464	4971729	1076,831059	4617
organizational unit 65475	255500	1051,440329	243
organizational unit 65458	19393023	1041,292043	18624
organizational unit 65457	4415973	958,9517915	4605
organizational unit 65455	13419505	945,5016557	14193
organizational unit 65469	723373	919,1524778	787
organizational unit 65484	34549	909,1842105	38
organizational unit 65465	105556	851,2580645	124
organizational unit 65472	257816	837,0649351	308
organizational unit 65471	76737	825,1290323	93
organizational unit 65486	8333	641	13
organizational unit 65482	60513	617,4795918	98
organizational unit 65470	375666	554,079646	678
organizational unit 65478	4920	492	10
organizational unit 65467	120834	477,6047431	253
organizational unit 65461	526922	463,8397887	1136
organizational unit 65462	12440	460,7407407	27
organizational unit 65477	52262	261,31	200
organizational unit 65473	40133	249,2732919	161
organizational unit 65474	0	0	28
organizational unit 65483	0	0	3

Picture 16.

**Declaration amounts for projects.**

The top 3 projects by cost include «project 83061», «project 9944» and «project 21012», respectively.

With average costs of 11048, 8120.064 and 7149.741935, respectively. Notably less expensive projects come from 4th place and amount to 5397 or less.

case ProjectNumber	summ	avgg	cnt
project 83061	132576	11048	12
project 9944	1015008	8120,064	125
project 21012	221642	7149,742	31
project 74037	97146	5397	18
project 53301	103341	4921	21
project 48747	77168	4823	16
project 53345	360750	4810	75
project 5711	382981	4728,16	81
project 14413	890015	4611,477	193
project 3560	90405	4305	21
project 44487	80617	4243	19
project 28758	198336	4132	48
project 500	71496	3972	18
project 50966	47340	3945	12
project 32482	147648	3785,846	39
project 34815	213930	3565,5	60
project 26860	265778	3407,41	78
project 3726	74140	3370	22
project 13656	186544	3272,702	57
project 9186	142858	3246,773	44
project 48349	32410	3241	10
project 57099	286907	3223,674	89
project 23037	95970	3199	30
project 40626	136109	3165,326	43
project 82716	31170	3117	10
project 48906	46590	3106	15
project 1052	387899	3103,192	125
project 9141	92490	3083	30
project 40556	32758	2978	11
project 80332	145610	2971,633	49
project 66300	38168	2936	13
project 60217	52614	2923	18
project 19035	177072	2902,82	61
project 8890	28190	2819	10
project 31199	67224	2801	24
project 41816	134970	2754,49	49
project 20116	298744	2740,771	109
project 22585	87478	2733,688	32
project 13715	120186	2731,5	44
project 12512	242279	2722,236	89
project 10042	84281	2718,742	31
project 8136	136560	2677,647	51
project 21982	136326	2673,059	51
project 75256	96955	2620,405	37
project 60513	54789	2609	21
project 76056	70071	2595,222	27
project 74016	48355	2545	19
project 4850	92536	2500,973	37
project 3775	42483	2499	17
project 43800	149856	2497,6	60
project 10384	186960	2492,8	75
project 15608	64610	2485	26
project 58600	66960	2480	27
project 6486	486410	2456,616	198
project 57569	95208	2441,231	39
project 72005	85375	2439,286	35
project 6903	141252	2435,379	58
project 23973	43758	2431	18
project 10953	65079	2410,333	27
project 7837	257276	2404,449	107
project 6581	379802	2403,81	158
project 74416	47740	2387	20
project 15337	120271	2312,904	52
project 40380	39202	2306	17
project 24368	322851	2289,723	141
project 7889	114307	2286,14	50
project 66881	54432	2268	24
project 76605	61162	2265,259	27
project 44507	92736	2208	42
project 15017	91998	2190,429	42
project 1813	153218	2188,829	70
project 73326	43730	2186,5	20
project 26092	21830	2183	10
project 72843	182150	2168,452	84
project 11777	188771	2145,125	88
project 10484	168941	2138,494	79
project 47920	25596	2133	12
project 9706	140664	2131,273	66
project 24631	80692	2123,474	38
project 14320	52800	2112	25
project 77499	46442	2111	22
project 48605	20920	2092	10
project 28268	43365	2065	21
project 12874	127810	2061,452	62
project 15249	26715	2055	13
project 13096	190932	2053,032	93
project 1688	145554	2050,056	71
project 1495	302791	2045,885	148
project 27212	114462	2043,964	56
project 12323	231482	2030,544	114
project 38245	30240	2016	15
project 7962	200819	2008,19	100
project 3867	50135	2005,4	25
project 32540	43790	1990,455	22
project 12848	89529	1989,533	45
project 2777	144587	1980,644	73
project 19312	508114	1969,434	258
project 48795	25571	1967	13
UNKNOWN	6923658	1964,381	35246
project 1196	139142	1959,746	71

Picture 17.

## Conclusions

After the analysis, we can draw the following conclusions:

Bottlenecks in the travel declaration process are the payment document for the approved request, the approval of the declaration by the manager and the submission of the declaration after the trip.

There is a fairly large proportion of declarations (domestic and international - 23 and 61 percent, respectively) that are rejected and corrected at various stages of the process. The management needs to improve its work on clarifying the procedure and rules for maintaining declarations.

The need to improve control over the execution of the process is also evidenced by the large number of identified deviations. These deviations were revealed when considering the issues proposed by the organizers of the competition. I would like to note the following problems that require close attention:

1. Violation of the procedure for registration of international declarations, people went abroad without prior permission.
2. Violation of the deadlines for filing declarations after the trip.

The most expensive projects and organizational units were also identified. It is worth considering their costs in more detail and understanding their expediency

## References

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