Proyecto I – Master Data Science & IA
Gonzalo Joaquin Casco

Why this analysis?

In a context where thousands of travel insurance claims are processed every month, understanding what gets paid, what gets rejected, and why, becomes essential to improve operations and customer satisfaction.
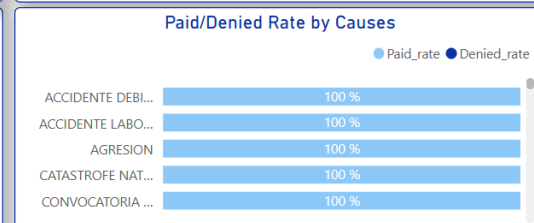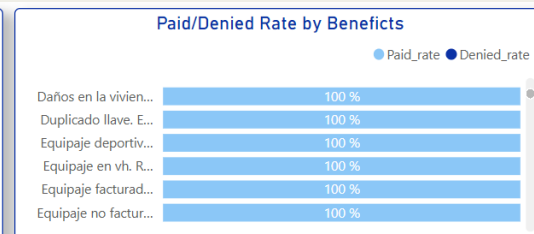
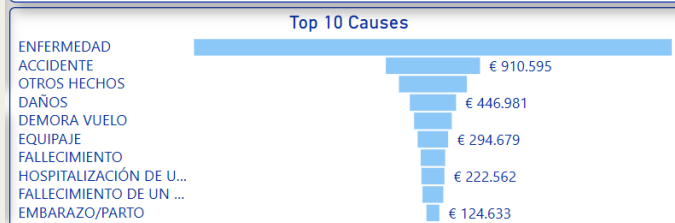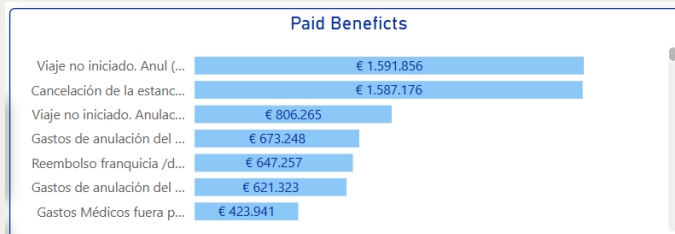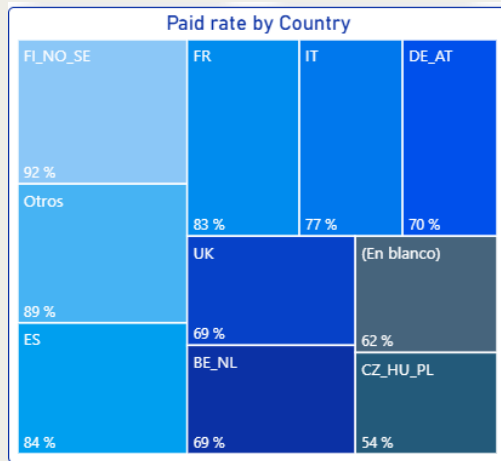This analysis was guided by 5 key questions that explore claim behavior, performance, and opportunities for improvement.

Guiding questions

1. What is the average payment rate by country or benefit type?
2. Which clients have the highest rejection rates?
3. Which types of claims are most paid or most rejected?
4. Are there causes that are almost never paid?
5. Are there specific dates or months with more claims?

What is the average payment rate by country or cause type

Paid rate by Country

| FI_NO_SE | FR | IT | DE_AT |
| 92 % | 83 % | 77 % | 70 % |

| Otros | UK | (En blanco) |
| 89 % | 69 % | 62 % |

| ES | BE_NL | CZ_HU_PL |
| 84 % | 69 % | 54 % |

Paid Benefics

Viaje no iniciado. Anul (...	€ 1.591.856
Cancelación de la estanc...	€ 1.587.176
Viaje no iniciado. Anulac...	€ 806.265
Gastos de anulación del ...	€ 673.248
Reembolso franquicia /d...	€ 647.257
Gastos de anulación del ...	€ 621.323
Gastos Médicos fuera p...	€ 423.941

Paid/Denied Rate by Benefics

● Paid_rate ● Denied_rate

Daños en la vivien...	100 %
Duplicado llave. E...	100 %
Equipaje deportiv...	100 %
Equipaje en vh. R...	100 %
Equipaje facturad...	100 %
Equipaje no factur...	100 %

Top 10 Causes

ENFERMEDAD	
ACCIDENTE	€ 910.595
OTROS HECHOS	
DAÑOS	€ 446.981
DEMORA VUELO	
EQUIPAJE	€ 294.679
FALLECIMIENTO	
HOSPITALIZACIÓN DE U...	€ 222.562
FALLECIMIENTO DE UN ...	
EMBARAZO/PARTO	€ 124.633

Paid/Denied Rate by Causes

● Paid_rate ● Denied_rate

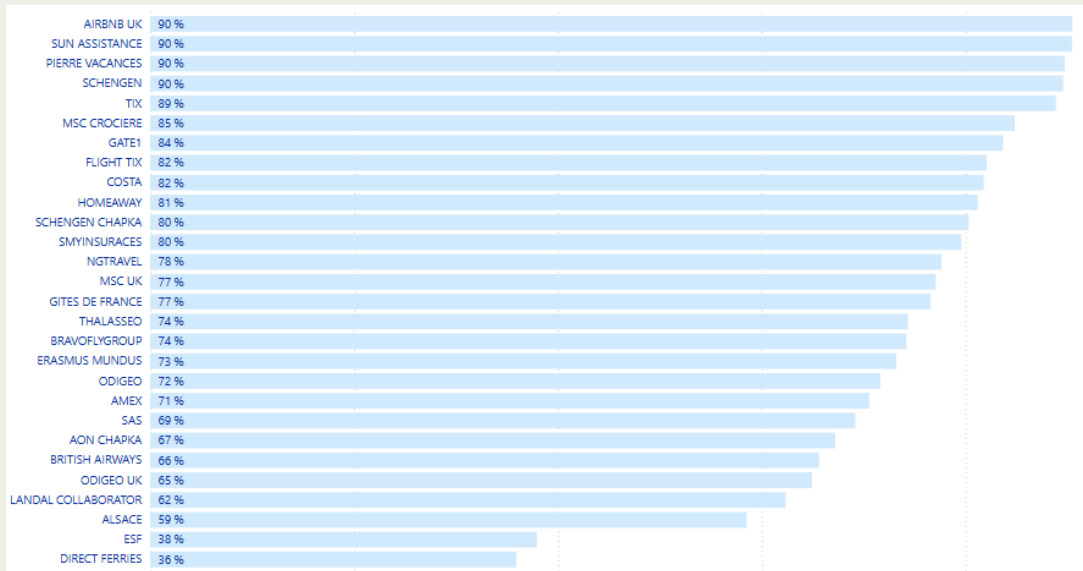| ACCIDENTE DEBI... | 100 % |
ACCIDENTE LABO...	100 %
AGRESION	100 %
CATASTROFE NAT...	100 %
CONVOCATORIA ...	100 %

The highest payment rates are found in essential and emergency medical services.
These typically exceed 90%, suggesting good documentation and policy coverage.
In contrast, administrative or lower-priority benefits show significantly lower rates.

For a better understanting use the Dashboard attached– "Proyecto_easig_dsl.pbix"

Which clients have the highest rejection rates?

Some clients exhibit high rejection rates, especially those with large claim volumes. This may be due to documentation errors, stricter policy rules, or lack of proper evidence. Others show nearly zero rejection, possibly due to strong business relationships or well-structured processes.
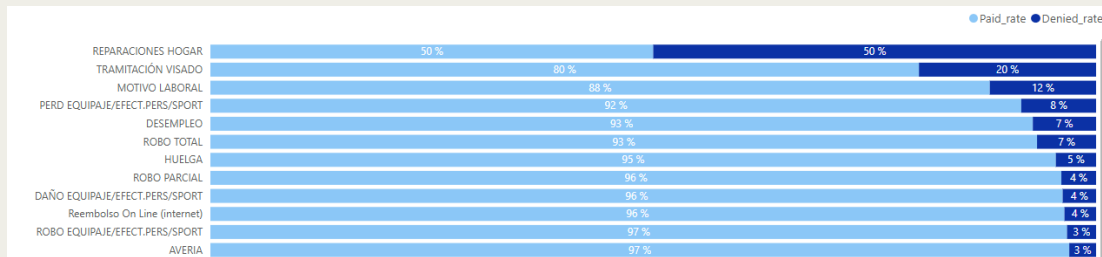
Client	Rate
AIRBNB UK	90 %
SUN ASSISTANCE	90 %
PIERRE VACANCES	90 %
SCHENGEN	90 %
TIX	89 %
MSC CROCIERE	85 %
GATE1	84 %
FLIGHT TIX	82 %
COSTA	82 %
HOMEAWAY	81 %
SCHENGEN CHAPKA	80 %
SMYINSURACES	80 %
NGTRAVEL	78 %
MSC UK	77 %
GITES DE FRANCE	77 %
THALASSEO	74 %
BRAVOFLYGROUP	74 %
ERASMUS MUNDUS	73 %
ODIGEO	72 %
AMEX	71 %
SAS	69 %
AON CHAPKA	67 %
BRITISH AIRWAYS	66 %
ODIGEO UK	65 %
LANDAL COLLABORATOR	62 %
ALSACE	59 %
ESF	38 %
DIRECT FERRIES	36 %

For a better understanting use the Dashboard attached– "Proyecto_easig_dsl.pbix"

Which type of claims are most paid or rejected?

Claims related to medical emergencies and hospitalizations account for the largest paid amounts. On the other hand, cancellations, suspected fraud, or poorly documented claims are frequently rejected

ACCIDENTE DEBIDO A TERCEROS	100 %
ACCIDENTE LABORAL	100 %
AGRESION	100 %
CATASTROFE NATURAL	100 %

Are there claim reasons that are almost never paid?

● Paid_rate ● Denied_rate

|	Paid_rate	Denied_rate
REPARACIONES HOGAR	50 %	50 %
TRAMITACIÓN VISADO	80 %	20 %
MOTIVO LABORAL	88 %	12 %
PERD EQUIPAJE/EFECT.PERS/SPORT	92 %	8 %
DESEMPLEO	93 %	7 %
ROBO TOTAL	93 %	7 %
HUELGA	95 %	5 %
ROBO PARCIAL	96 %	4 %
DAÑO EQUIPAJE/EFECT.PERS/SPORT	96 %	4 %
Reembolso On Line (internet)	96 %	4 %
ROBO EQUIPAJE/EFECT.PERS/SPORT	97 %	3 %
AVERIA	97 %	3 %

Some specific claim reasons show extremely high rejection rates, possibly because they are not covered by the policy or lack sufficient documentation.

For a better understanding use the Dashboard attached– "Proyecto_easig_dsl.pbix"

Are there months with more claims than others?
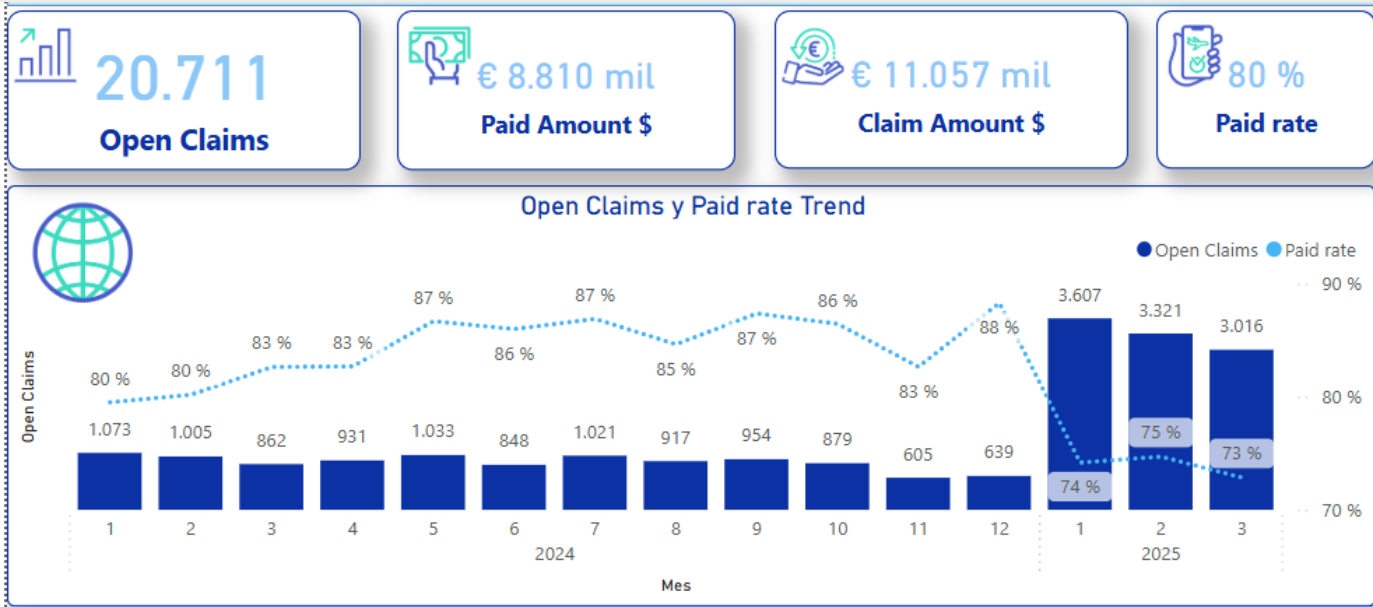
January to March 2025 show noticeable peaks, explained by the entry of a new client that caused an 80% monthly increase compared to 2024's average.
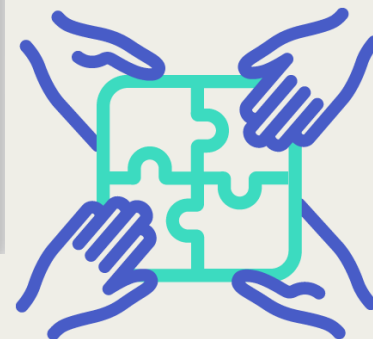
For a better understanding use the Dashboard attached– "Proyecto_easig_dsl.pbix"

Dataset overview

- **Source**: Operational data from a travel insurance company.
- **Period covered**: Jan 2024 - Mar 2025
- **File size** : 105122 rows x 65 colums

-**Key Columns:**
- Dates: fecha_apertura, dia_siniestro
- Values: importe_reclamado_hojagastos, importe_indemnizado_hojagastos
- Classification: prestacion_1_tipo_gasto, hecho_generador, ace_motive_cierre
- Geographic/client: pais, nombre_cliente_gc

Transformations:
- Cleaned and filtered (from 2024)
- Removed outliers (IQR)
- Created calculated field s(payment rate)

Thanks!

Do you have any questions?

"Data will talk to you if you're willing to listen "
- Simon Sinek

gcasco91@gcasco.com

https://www.linkedin.com/in/gonzalo-casco/