WELCOME

EPR Annual Conference 2025

Leading the Change in Rehabilitation:

Towards Future-Proof Services

5-6 June 2025 | Antwerp, Belgium





Open Spaces Workshops: Leadership and data management

- Sander Allert Plain Sight
- Giada Venier Fondazione don Gnocchi



LEADERSHIP AND DATA MANAGEMENT

PLAINSIGHT

Who Am I – Sander Allert

10 years of experience in Data Solutions

Co-Founder Plainsight

Experienced in ...

Data Warehousing & Lakehousing

Data Science & Al

Data Architectures (On-Premise & Cloud)

Self-Service Rollouts

... Still developing and experimenting





What horizon are you looking at?

Stop thinking about the Now, start thinking about the Future!

These could conflict and bring you in another destination!



Data Enthusiast / Techie Which tool has the nicest features? What technological advancements are being made?

Use Data For Improvements!

Which tool will simplify my work and create better experiences for business in the long term

Strategical Leadership: How do we remain relevant in 5, 10, 15 years? Where can our highest added value be achieved?

PLAiNSIGHT



2010 : Hadoop

2015 : Blockchain / Bitcoin

2020 : Metaverse

2023 : Generative Al

Where are you? Where do you want to be?

The Innovation Adoption Curve by E. Rogers



PLA**i**NSIGHT

Hype Cycle according to Gartner

Hype Cycle for Data Management, 2024



Plateau will be reached: 🔘 <2 yrs. 🔍 2–5 yrs. 🌑 5–10 yrs. 🔺 >10 yrs. 😣 Obsolete before plateau

PLĄiNSIGH

Gartner

Cycle of Control



PLAiNSIGHT

Macro data trends

It all comes together





Why We Need Data Management?

You, as a Leadership



An Example: Insights We Want To Achieve!

EU Directive on Pay Transparency: the five requirements

On 10 May 2023, the European Parliament approved the new directive on pay transparency. The objective of this directive is to address pay discrimination between men and women. Belgium has until 2026 to incorporate this directive into its national legislation; however, it is advisable not to delay action until 2026.





Equal pay for equal work Transparency in setting remuneration Transparency of remuneration in job advertisements Transparency of remuneration by category Reporting on the pay gap



When does data get value?





Enemy Number 1:



Excel Monkeys

- A Repeating Every Day/Week/Month!
- # Errors/Inconsistencies Incoming!
- # We all hate the #DIV/0!, #N/A, #NAME?, #NULL!,
 #NUM!, #REF!, and #VALUE!
 # MUM!
- Data is not accessible
- Data is delivered too late, too much dependencies
- Impacting the agility of our ship!



11

Modern Platforms let you chat with your data and surface insights instantly.

"

LLMs for Data Analysis and Data Management?

Use Case

Analyz	zed ^								
pyth	hon			Always	show details		🗗 Сору		
imp	ort pandas as pd								
# L(oad the CSV file								
file	e_path = '/mnt/data	/customers							
data	a = pd.read_csv(fil	e_path)							
# D i	isplay high-level o	verview of	each column						
over	rview = pd.DataFram	e({							
	"Column": data.col	umns,							
	"Data Type": data.	dtypes,							
	"Non-Null Count":	data.count	:(),						
	"Unique Values": d	ata.nuniqu	ie(),						
"Missing Values": data.isnull().sum()									
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Power BI & LLMs

Ask Your Data



Databricks Genie

© 1

😂 databricks	Genie	e Spaces					R		
2	R	Robert Show m	Smith e sales perform	ance by territory	y		0		
∃ ∠ ≱	*	Genie The que groups	ery calculates th the results by te	e total revenue f rritory and sorts	for each sales territory, s them in descending or	roun der l	iding the result to two decimal places. It then based on total revenue.		
			^{A^B_C Employee_}	_Territory	1.2 TotalRevenue	© <u>≁</u> C			
		1	Southwest		\$606,380,951.99				
		2	United King						
	Ask	your que	estion	 R Robert Show m Senie Could y it based 	 Robert Smith Ø Show me lost revenue from platinum customer churn Genie Could you please clarify what defines a "platinum customer" in this context? For examplit based on total revenue, order quantity, or another metric? 				
				Platinum cu	stomers are accounts the	Deta	General Instructions Add general instructions on how you want Genie to behave. Always use the ROUND SQL function to summarize sales, revenue, and price columns		
				-	Always i	୍ର ଭ ଞ	to 2 decimal places. For example ROUND(SUM(TotalDue),2) Our fiscal calendar runs from Febuary 1st through January 31st every year FQ means financial quarter Spend is defined as ROUND(SUM(`StandardCost` * `OrderQty`), 2)		
							Discard Save		
							Example SQL Queries Add example queries that Genie can learn from. + Add Example Query		
							Total spend by territory in FY24 SELECT `Employee_Territory`, ROUND(SUM(`StandardCost` * `OrderQty`), 2) AS `TotalC_ Platinum customers spend > \$100K in any given month WITH MonthlyCustomerSpend AS (SELECT `Customer_FullName`, `Employee_Territory`, D_		

Will AI Solve Our Problem?

- If your questions are simple.
- If your data is well-described.
- ✓ … If your data resides together.

⋪ NO!!

- If your data is still in a silo.
- If your data is difficult to interpret.
- In the second second

LET'S TALK LEADERSHIP & DATA MANAGEMENT

PLAINSIGHT

Leadership and Data Management The case of robotic rehabilitation in Fondazione Don Gnocchi

WORKSHOP – EPR ANNUAL CONFERENCE 2025

GIADA VENIER – FONDAZIONE DON GNOCCHI

Summary of contents

- **1**. Before: leadership choice to become «early adopters»
- 2. During: innovation management in the process of adoption
- 3. After: data management for informed clinical and administrative decision-making

1. Before: leadership choice to become "early adopters" (2015)

The people involved



The drivers

- Long tradition of technological innovation
- Need for a more scientific and measurable approach in rehabilitation
- Potential savings thanks to new organisational model

2. During: innovation management in the process of adoption



HTA survey co-created in a multidisciplinary equipe:

- Development & Innovation Dept.
- Doctors
- Physiotherapists
- researchers (both clinical and technology)
- IT Dept.
- Medical Director
- Clinical Engineering Dept.
- Administrative Director



RANKING CRITERIA & HTA ALGORYTHM	%
Appropriateness for highly diffused diseases	5%
Capability to provide outcome indexes	15%
Capability to provide normality indexes as a reference	5%
Safety issues in highly diffused diseases	5%
Efficacy proven in scientific literature	15%
Evaluator's indication for priority + declared confidence	15%
Highest impairment targettable	10%
Maturity of the technology (1/0)	o=prototype 1=commercial
User interface customizability	10%
<i>Efficiency indexes</i> * (patient can/cannot use it autonomously, group therapy, nr of therapists needed)	20%

RANKING = TechMaturity $\cdot \sum_{i} ValueOfCriterion_{i} \cdot Weight_{i}$

16 ROBOTS IDENTIFIED	Nr.Val.	Average	STD	STD/AVE
ARMEO Spring TOO EXPENSIVE	6	1,29	0,27	21%
GAIT TRAINER TREADMILL (with Unweighing				
System)	1	1,27		
ERICO	L	1,20		
PABLO <u>UPPER LIMB</u> ; ANOTHER SYSTEM ADDED (« <mark>DIEGO</mark> »),	1,19		
AMADEO EVALUATED LATER ON AND COVERING SC	ME UNME	T 1,14	0,30	27%
MOTORE FUNCTIONAL NEEDS (BILATERAL EXERCIS)	E S) 10	1,12	0,13	12%
RE-GAIT	1	1,09		
LOKOMAT	7	1,03	0,09	9%
ARMEO Power	3	0,99	0,21	21%
GEO SYSTEM	2	0,96	0,31	33%
GLOREHA	6	0,94	0,19	20%
REWALK	7	0,62	0,19	31%
EKSO	6	0,62	0,10	17%
REOGO	2	0,58	0,07	13%
ULTRA	2	0,51	0,00	
BRACCIO DI FERRO - PHYSIOASSISTANT		ARKED D		



A step-by-step approach to adoption

In terms of costs

ŧ

 First set of robots purchased was for the upper-limb → CHEAPER compared to lowerlimb solutions

In terms of diffusion

- Pilot study in the centre of the clinical "champion" and her team of therapists (Rome) → well-established TRUST
- Development of a dashboard for data management and organisational model



The organizational model

Gyms organization						
08:00						
08:45	outpatient					
09:30						
10:15						
11:00	innationt					
11:45	inpatient					
12:30						
13:00	outpatient					
13:45	outpatient					
14:30						
15:15	inpatient					
16:00						
16:45						
17:30	outpatient					
18:15						

Time-slot organization to allow the integration of robotics into the patient's rehabilitation routine in compliance with NHS rules

1 : *n* model = 1 therapist follows 3 or 4 patients simultaneously

Saturation of robotic gym

> Amortise initial costs of purchase and investment

Managing the scale up

Adoption in the FDG centre in Milan, where there was a bigger **cultural barrier** among healthcare professionals compared to Rome

Step-by-step approach in terms of culture

Leadership approach:

- **Recommend** the use of robots instead of ordering it
- Take the backseat and leave the "champion" therapists at the forefront to teach the other therapists



The role of training

Some therapists had a training with the manufacturer company

Trained therapists train other therapists

2

95% of therapists trained in robotics in the structure

Rehabilitation robots in FDG today

More than 50 robots in 12 centres

TARGET	Upper Limb			Lower Limb –Trunk – Balance	Walk		
ROBOT	Pablo	Amadeo	Diego	Motore	Hunova	Geo System	C-mill
Parent company	Tyro Motion			Humanware	Movendo Technology	Reha technology	Motek Medical





3. After: data management for informed clinical and administrative decision-making

- Pre/post assessment with numerical data
- Feedbacks to maintain and involve subject's attention
- Constant and objective monitoring

- Lack of standards in robotic rehabilitation (robots from different companies collect different data in different ways), today mostly – but not fully - overcome
- Therapists are not able to absorb all the information

Need to collect and visualise these data in a structured way to make informed data-driven decisions

Dashboards for data management

Vendors didn't consider this need or didn't have enough resources (SMEs)

Architecture for raw data collection built by the Dept. for Development & Innovation



Dashboard for clinicians

Co-created with them to develop report format that could be used in their work



Dashboard for managers

Provides data on usage of all robots in all FDG centers

- Verify KPIs on (actual) adoption of robotics
- Negotiate maintenance contracts based on actual use of each robot type (filters by type and frequency of use)
- Verify economic sustainability (usage vs purchase cost) and carry out multicenter efficacy study

VALUE =

OUTCOME

COSTS



Expansion to other centers (from 20 to +50 robots)

Purchase also lower-limb robots

From data to health economics



1) Cost analysis for robotic rehabilitation [V.Gower et al. DOI: 10.3389/fpubh.2024.1445099]

Results:

- Saving of 49.60 € per cycle (mixed robotics + conventional)
- Probabilistic simulations show P>98% to save money in an optimized mixed rehab cycle
- Cost analysis \rightarrow optimization \rightarrow probabilistic approach

2) Comparative study on robotic rehabilitation in USA, UK and Italy with MIT and Stanford University (ongoing, unpublished)





Conclusions

- Leadership is key at every step of innovation: before, during and after
- Leadership also means giving space to professionals to advance innovation themselves by engaging with their peers and build trust
- Tradition in innovation is an enabler. Organisation that don't have such tradition can learn from others through platforms like EPR
- Data provided by technology needs to be managed in a way that benefits professionals to be really useful
- Data-driven decisions allow to scale up an innovation with the right timing and in a sustainable way

Guiding questions

- How can proper data management support leadership decisions in organisations aiming to be early adopters of (technology-based) innovations?
- > What can you do if data management is bad?
- Can you do decent leadership without proper data management?"



5 June 2025

EPR Annual Conference

THANK YOU! See you back at the conference room!

