Powering your Digital Transformation

Mohamed Badaoui Najjar PhD
Global Senior Director – PepsiCo R&D
Digital Transformation & Global Specifications

JIFSAN webinar Dec 2025

This presentation represents my expert opinion and not the views of PepsiCo

My journey across R&D & a vision of the future

How I Started

I recall my days in product development trying to hunt for critical data, lab notebook in hand, indexing pages. Balancing sheflife, with scaleup, with my trusted calculator and sugar tables. Lots of calls, emails and notes to find the wealth of internal info, hunt down expert and gather project learnings

A Vision For The Future

Digital systems connected through 1 thread where previous knowledge, smart functionality and modeling and simulation. Enabling our scientists and engineers to get the right connected insights, deliver a virtual first process, support design to value, while ensuring speed to market and landing more impactful products



How do you setup your digital transformation for success



Vision: Transform the way you work, not improvement



People: put your best talent on it for results and upskilling



Goal: anchoring on tension points of today needs of the future



Partners & Functionality:
Select right partners. deliver value to users and enterprise



Data & systems: understand what you need and current state



Change management: maker or breaker and big shift for R&D





Data & Analytics Are the Lifeblood of Digital Transformation



Between 2020 and 2025, global data creation is growing at 23% annually. Organizations that treat data as a product and asset are shifting from reactive to predictive and prescriptive decision-making.



90% of valuation lies in intangible assets – data being one of the primary

 Intangible assets (including data, IP, and brand) now account for 90% of the S&P 500's market value, up from 17% in 1975



John Deere: precision ag insights as a service

- \$20.6 B in revenue from the Production & Precision Agriculture (PPA) segment in 2024 - 40% of company revenue
- Precision ag tools use IoT +
 analytics to optimize
 planting, fertilization,
 harvesting—turning machine
 data into high-value service
 model



Domino's: Predicting the next 5 pizzas ordered

- Domino's uses AI to analyse billions of data points from orders, locations, and customer profiles.
- Their digital channels now account for over 75% of U.S. sales, with predictive analytics driving faster delivery + customer retention



Delta Airlines: Loyalty program data valued higher than the airline itself

 Delta's SkyMiles program was valued at \$26 billion, exceeding the airline's market cap during the pandemic.



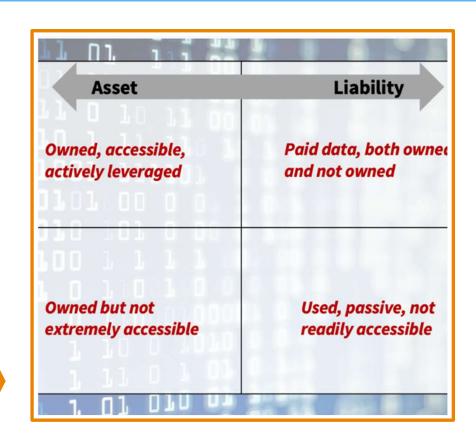


Data: what do you own? What's the current status?

- Easy to access assets: FAIR findable, accessible, interoperable and reusable. Immediate opportunity for consistent innovation.
- Hard to access assets: 40+% Silos, legal, compliance restrictions. opportunities for leaders to challenge the reasoning. Use privacy enhancing technologies
- Easy to access liabilities: paid data, assess what is unused and what can be captured internally.
- Hard to access liabilities; owned by competitor, customer



INSIGHT – your data assessment is critical to powering your digital transformation

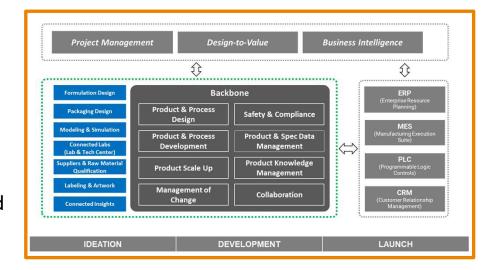






Systems - Product lifecycle management connecting Data

- **Digital infrastructure** product life cycle management enables a continuous digital thread across the lifecycle
- An enterprise element owned by all the key stakeholders that need design and adopt it
- Build the modules that are critical to unlocking value to your business
- Incorporate user delight features to ensure efficiency and collaboration in the system



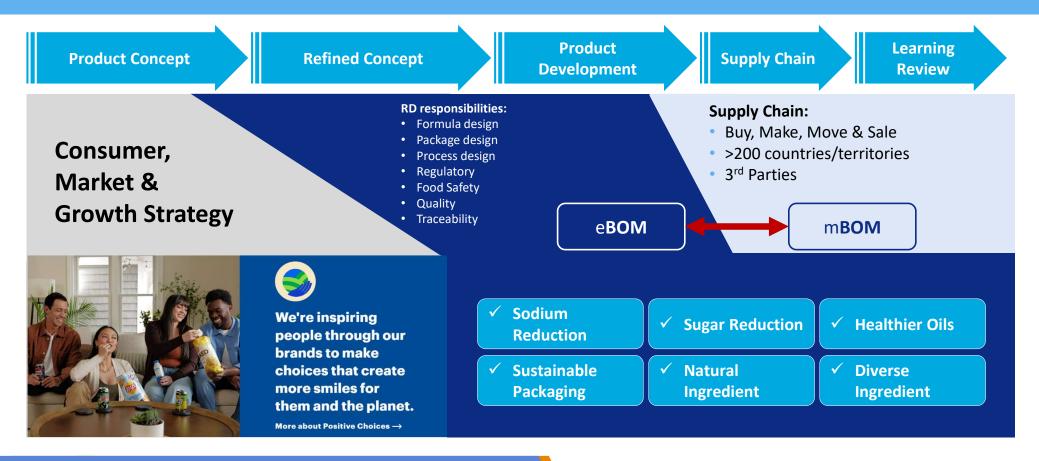


INSIGHT – Prioritize unlocking value in your system of the future





What does the E2E look like for PepsiCo







Designing functionality – Scoping use cases articulating desired functionality that delivers significant value to your users and enterprise



Generate insights faster and more efficiently in support of growth

Al tool pulling multiplatform insights coupled with internal data to generate insights.



Support innovation and renovation via R&D workflow optimization and ingredient, Flavors & seasoning execution

Solution predictors – ingredient, process, substitution support, scaleup simulator



Enable faster development of better products through E2E tools integration

Development optimizers, smart rules, virtual development, modeling or shelf life and product/package performance



Enable productivity and Design-to-Value initiatives

Reduce complexity: portfolio analysis tools paired to cost, consumer and product performance

Proactive – incorporate drivers of performance in product design



Managing change - Upskilling, supporting people and tools deployment

MINDSET



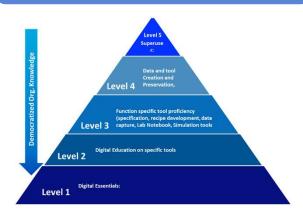
Inspire the organization with a vision and a journey to be part of

ADOPTION



 User delight features ensure change management supports adoption

UPSKILLING



• Enable accessible digital proficiency upskilling for leaders and teams.





Chip it away: A labeling case study



An Al tool







Key Takeaways





Digital and smart tools will not replace you, but someone using them will



Transformational Vision

Drive your program with a transformational vision to inspire and guide your organization towards successful change.

- Enterprise Sponsorship

 Ensure enterprise sponsorship to unlock value across the ecosystem and provide necessary support for the transformation.
- Top Talent

 Put your best talent on the transformation to leverage their skills and expertise for successful implementation.
- Value-Driven Design

 Guide the design with value-driving functionality to ensure the transformation delivers impactful results.

