

docebo®

# POWERING PERFORMANCE WITH AI AND PERSONALIZED LEARNING



# ALLOW OURSELVES, TO INTRODUCE...OURSELVES

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# HOUSEKEEPING

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## TODAY'S PRESENTATION IS BEING RECORDED

You can expect a recording of today's webinar presentation in your inbox within a few days



## DON'T BE AFRAID TO ASK QUESTIONS

We love when our attendees ask us question, so please don't hesitate if something peeks your interest

We're an open book (for the most part...)

# TODAY'S OBJECTIVES

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- **HOW TECHNOLOGY IS EQUIPPING LEARNERS WITH THE TOOLS NECESSARY TO SPUR ENGAGEMENT AND KEEP THEM ENGAGED – ONE OF THE FIRST STEPS ALONG THE PATH TO FULL LEARNING PERSONALIZATION**
- **WHY ARTIFICIAL INTELLIGENCE IS CRUCIAL TO DELIVERING RELEVANT CONTENT BASED ON INDIVIDUAL LEARNER NEEDS AND INTERESTS**
- **THE ENGAGEMENT, PRODUCTIVITY, AND PERFORMANCE BENEFITS THAT AI-POWERED PERSONALIZED LEARNING DELIVERS.**

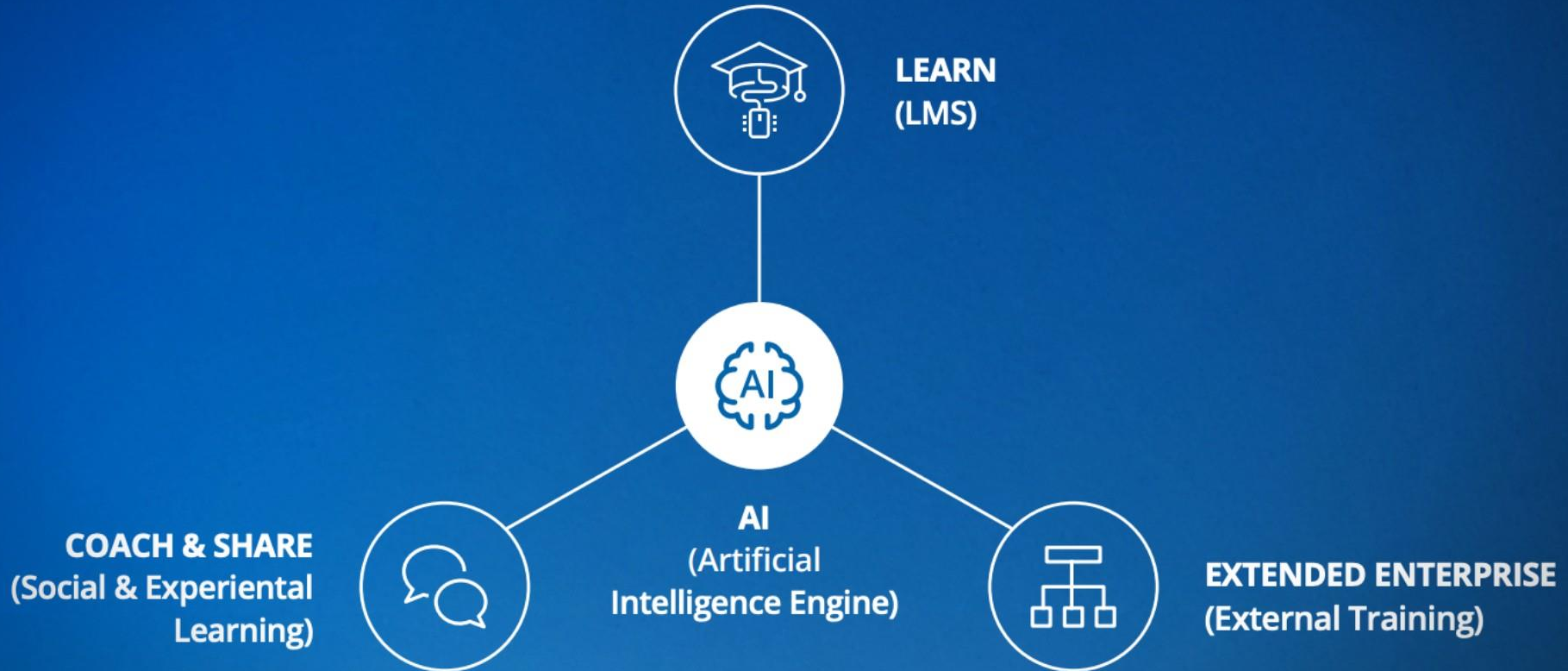
# ABOUT DOCEBO

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- DOCEBO IS A CLOUD-BASED AI-POWERED ENTERPRISE LEARNING PLATFORM
- ENABLES A BLENDED LEARNING APPROACH TO CORPORATE TRAINING
- FOUNDED IN 2005
- 5 OFFICES, (CANADA, USA, UAE, UK, ITA), 280+ EMPLOYEES
- 1,600 CLIENTS IN 90 COUNTRIES
- PLATFORM SUPPORTS 40 LANGUAGES



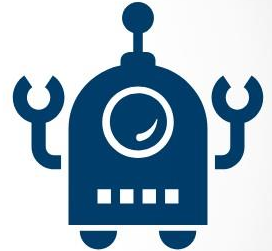
# Docebo Learning Platform



# DEMYSTIFYING ARTIFICIAL INTELLIGENCE IN ENTERPRISE LEARNING

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- AI EXPOSES ENDLESS POSSIBILITIES FOR CIVILIZATION - AND IN INCREDIBLY POSITIVE WAYS
- THINK: SMART AUTOMATION OF VARIOUS TASKS
- AI IS BASED ALMOST ENTIRELY ON ALGORITHMS DEVELOPED BY HUMANS
- TO PERFORM TASKS THAT WOULD NORMALLY REQUIRE HUMAN INTELLIGENCE (VISUAL PERCEPTION, SPEECH RECOGNITION, DECISION-MAKING AND TRANSLATIONS BETWEEN LANGUAGES)



## Did You Know...

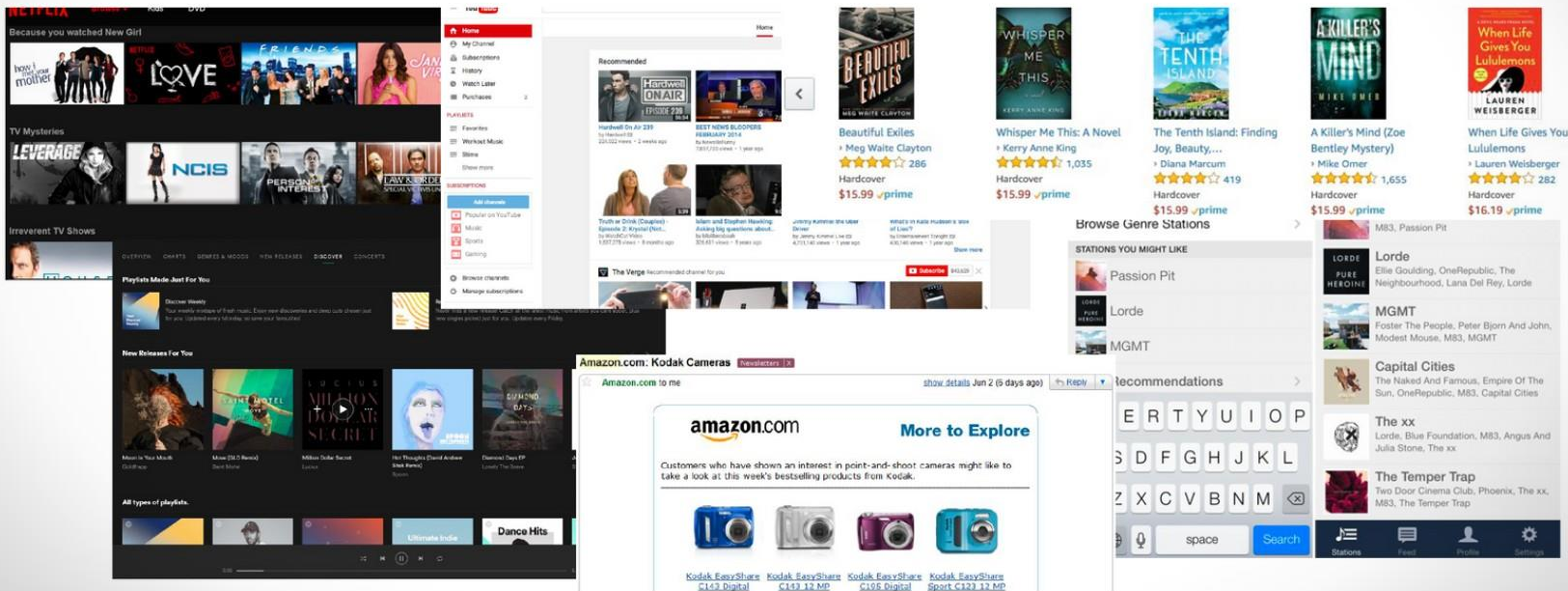


**8 out of 10 business leaders**  
believe AI will allow their company to obtain or sustain  
a competitive advantage.





# AI IN LEARNING IS MUCH MORE THAN CONTENT RECOMMENDATION





GENERATION

**GEN 1**  
**LMS**  
Formal

**GEN 2**  
**Social**  
Experiential  
collaborative

**GEN 3**  
**AI**  
Personalized  
and Automated

CONTENT SOURCE

L&D (Internal)

L&D and Learners  
(Internal)

AI aggregates & curates  
internal + external sources

WHO

Designed for Admins

Learners contribute and  
learn from others

AI augments learning and  
relieves admins from tasks

L&D ROLE

Commodity

Facilitation

Competitive  
Advantage

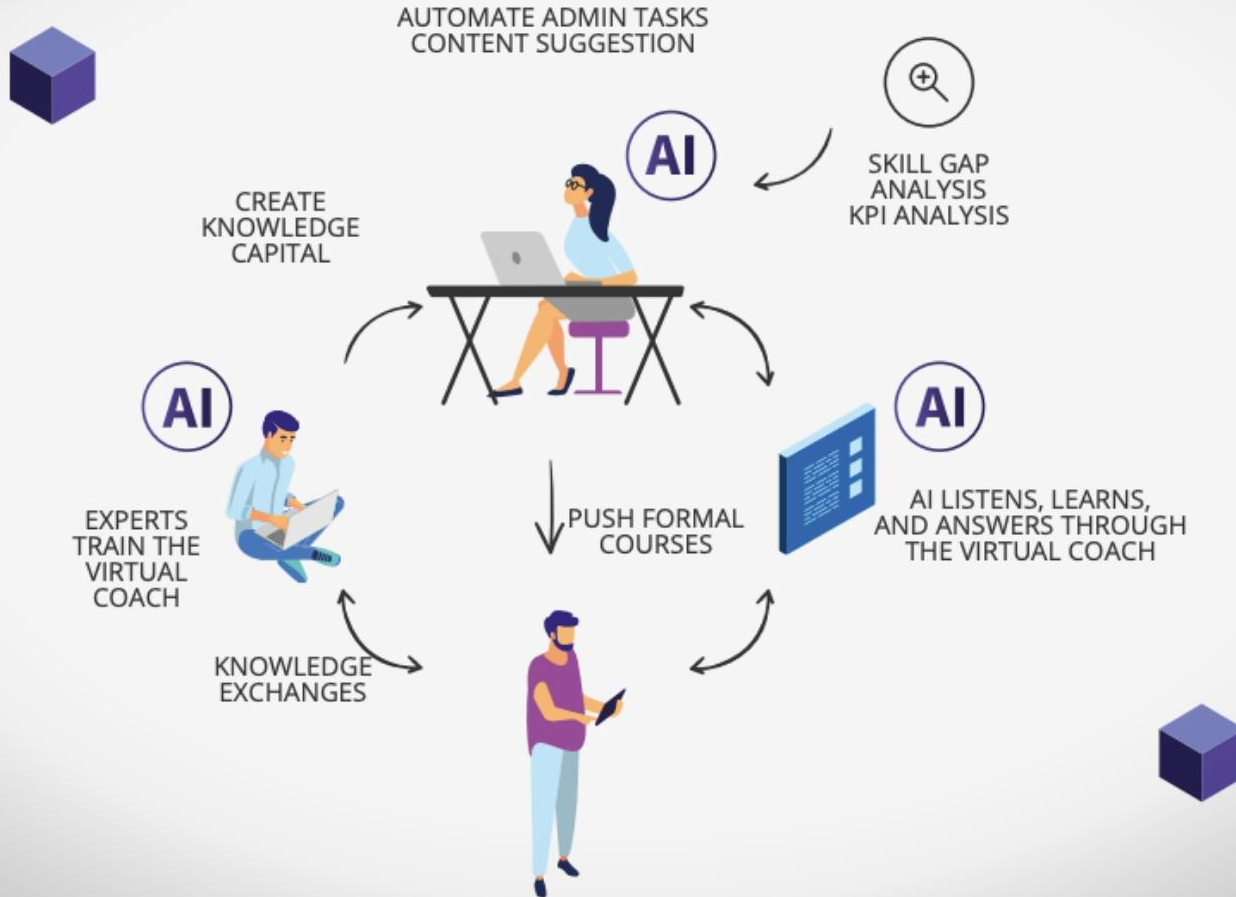
IT'S ABOUT...

Management of things

Empowerment  
of learners

Personal learning  
experience, Automation

# AI + L&D Working Together



# Enterprise Learning & Development's New DNA

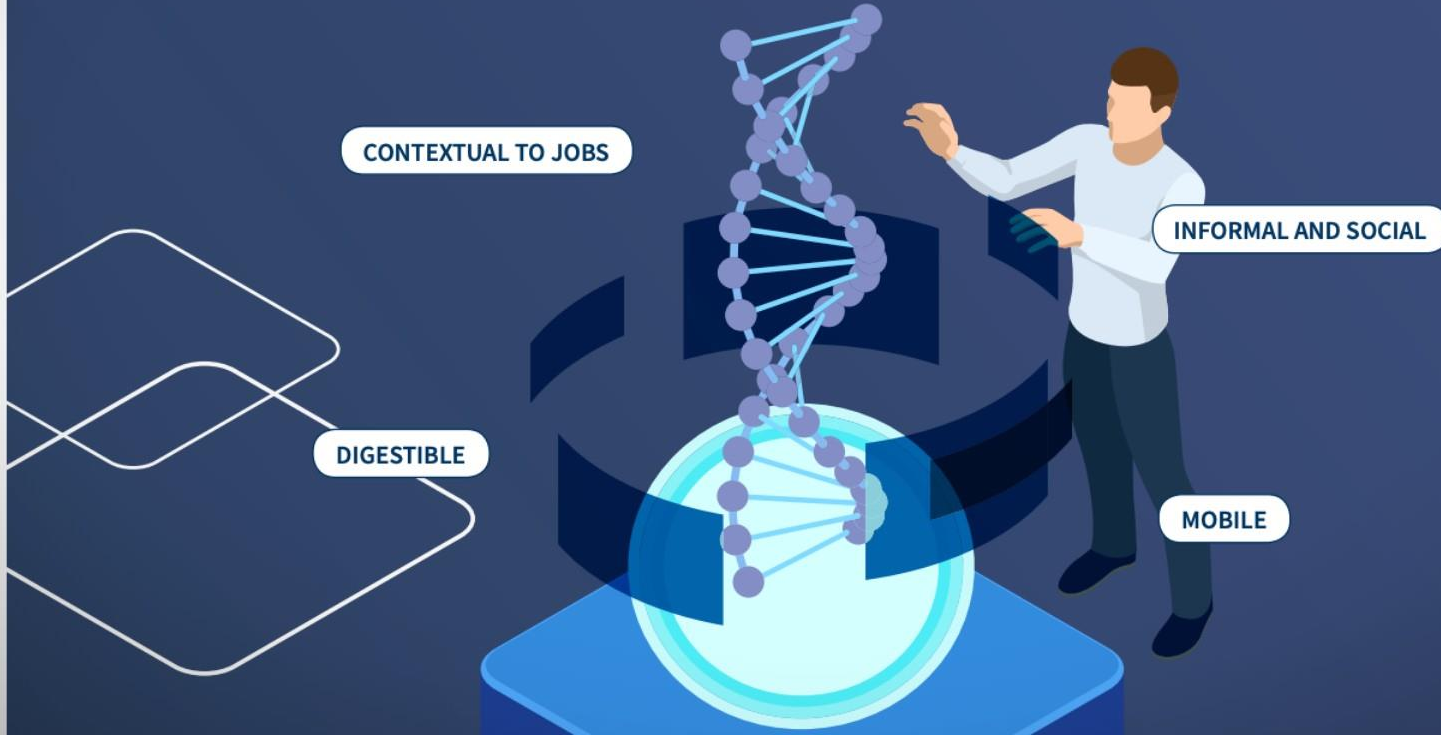
LEARNING MUST NOW BE

CONTEXTUAL TO JOBS

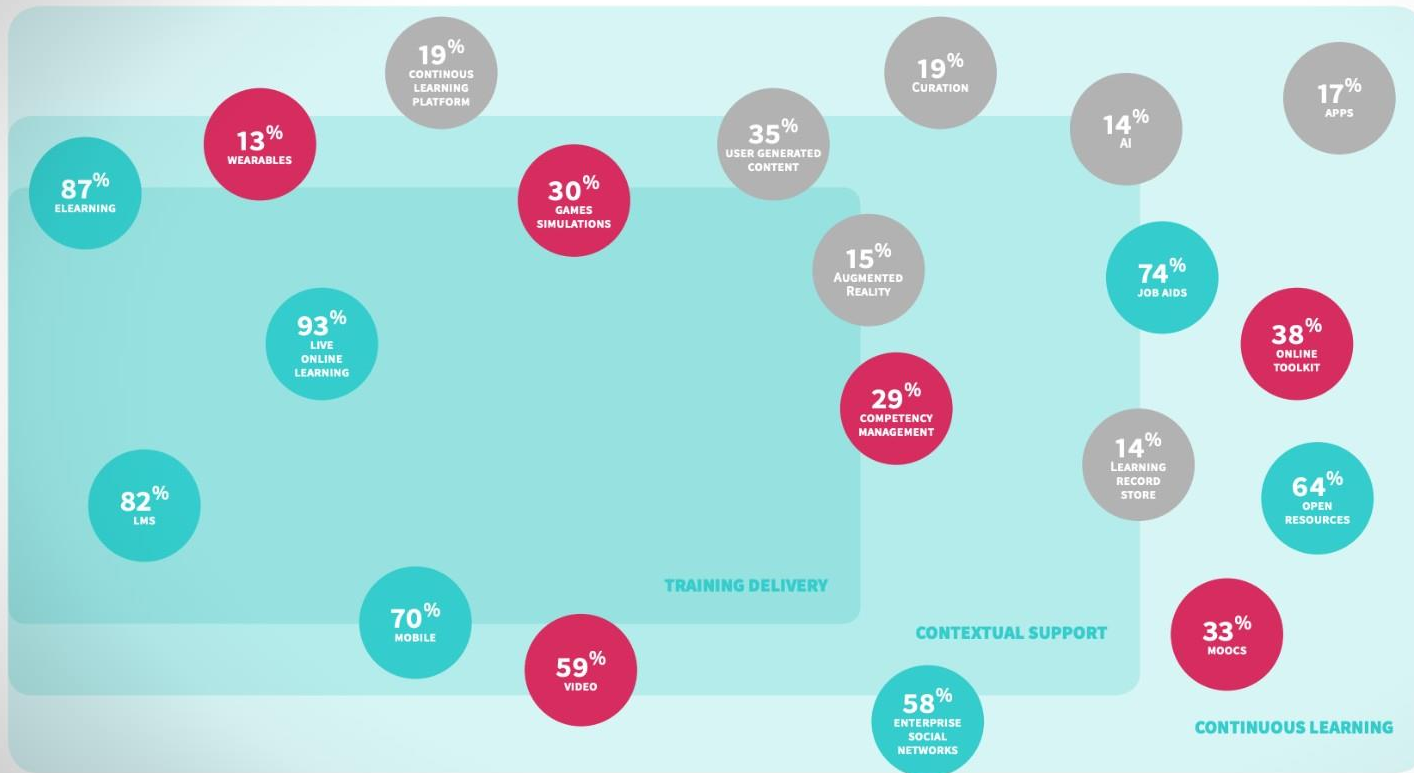
INFORMAL AND SOCIAL

DIGESTIBLE

MOBILE



## WHAT TECHNOLOGY ARE L&D INVESTING IN TODAY AND PLANNING FOR 2020?



**CONTINUOUS LEARNING**  
Tools that can support self directed learning in the flow of work.

**CONTEXTUAL SUPPORT**  
Tools that can support application of training back at work.

**TRAINING DELIVERY**  
Tools that can improve efficiency of course delivery.

Which technologies are expecting the most growth by 2020?

- Big Expectations  
90-190% growth
- Steady Uptake  
55-85% growth
- Approaching saturation  
5-30% growth

# AI IN THE CONTEXT OF E-LEARNING IS BUILT ON LEARNING-SPECIFIC ALGORITHMS

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## MACHINE LEARNING

A system where a computer learns without being explicitly programmed (i.e. recognize patterns to complete an action)



## DEEP LEARNING

Interconnected layers of software-based “neurons” form a neural network to ingest vast amounts of data and processes it via multiple layers



## NATURAL LANGUAGE PROCESSING

The ability of machines to understand and interpret human language how it is written and spoken to close the gap between what humans speak and how computers understand them

# WHY SHOULD I CARE ABOUT PERSONALIZED LEARNING?

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- **RELEVANT CONTENT = MORE ENGAGEMENT**

Data collection + AI serves up relevant recommendations. Technology uses data such as employee performance rating, competency, life cycle stage, knowledge retention, promotion

- **WITHOUT ENGAGEMENT, YOU NEED TO WORK EXTRA HARD TO RETAIN TOP PERFORMERS**

The key is showing/empowering the learner to see content that relates to where they are in their careers, and then deliver it in a way that enables them to retain it (boost interest + get excited about applying the learning to their daily work)

- **ALLOWS LEARNER TO LEARN AT A PACE THAT SUITS THEM**

- **REFLECTS THAT EACH EMPLOYEE HAS A UNIQUE ROLE WITHIN THE ORGANIZATION**

- **HIGHER LEARNING SATISFACTION GENERALLY LEADS TO HIGHER-SKILLED, HAPPIER EMPLOYEES**

**THE PSYCHOLOGY OF PERSONALIZATION: A DESIRE ROOTED IN AN  
INNATE DESIRE FOR CONTROL AND POWER OF CHOICE**

# KEY APPROACHES TO PERSONALIZED LEARNING

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Optimizing the pace and instructional approach of learning to the needs of each unique learner

- **ADAPTIVE LEARNING**

Technology used to assign resources based on unique need

- **INDIVIDUALIZED LEARNING**

Pace is adjusted to meet individual needs

- **DIFFERENTIATED LEARNING**

Approach is adjusted based on individual needs

- **COMPETENCY-BASED LEARNING**

Advance through learning pathway based on ability to demonstrate competency (application/retention of knowledge)

**ADAPTIVITY IS KEY TO ENGAGING TODAY'S WORKFORCE: NOT SOLELY DEPENDENT ON CONTENT FORMATS, BUT ALSO OPTIMIZING LEARNING PATHS TO PRODUCE BETTER LEARNING OUTCOMES**



# AI ADAPTS TO EACH LEARNER'S NEEDS

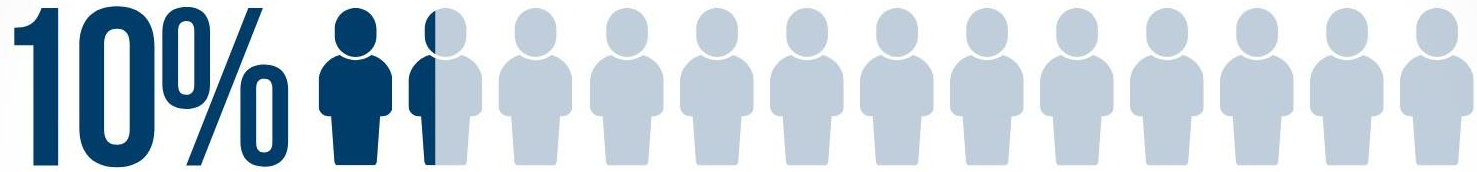
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- **IT'S DIFFICULT TO UNDERSTAND THE MANY WAYS TO MEET THE NEEDS OF EVERY LEARNER**

Generally, learners are placed into buckets based on role, department, experience level

- **AI DOESN'T DIMINISH THE ROLE OF THE INSTRUCTOR/ADMINISTRATOR**

They are key to facilitating the perfect blend of AI in training

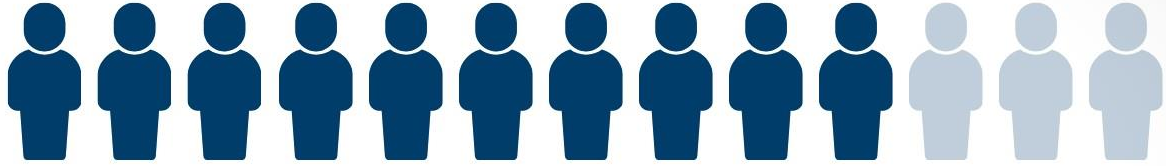


Only 10% of learning organizations are applying personalized learning strategically in their L&D activities – **Brandon Hall Group**

## MEANWHILE...

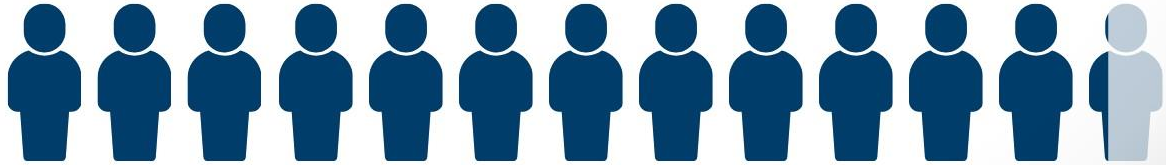
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77%



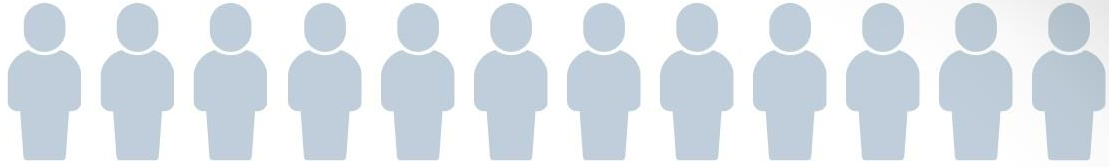
of L&D professionals say **personalization** is vital to employee engagement.

94%



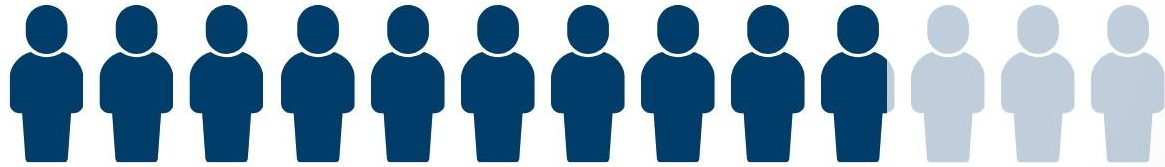
of businesses believe **personalization** is key to their success

# -60%



User **engagement** with content has gone down by 60%, and information overload is making consumers tune out.

# 75%



of consumers will be more likely to purchase from someone whose offerings are **personalized** according to individual preferences.

# CAPITALIZE ON OUR INSTINCTIVE ABILITY TO USE TECHNOLOGY

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Personalized learning goes beyond technology and algorithms

- **IT IS THE PURPOSEFUL DESIGN OF BLENDED INSTRUCTION**  
(i.e. face-to-face learning, technology-assisted instruction)
- **BUT, MAPPING PERSONALIZED LEARNING SYSTEMS WITH AI AND DATA SCIENCE ENABLES TRANSPARENT GROWTH**
- **IDENTIFY GOALS TO INCORPORATE APPROPRIATE DATA-ANALYTIC THINKING FRAMEWORK**

# PERSONALIZATION AND ADAPTIVE LEARNING

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- **AI PROVIDES INSIGHTS BASED ON ENORMOUS AMOUNT OF DATA COLLECTED AND ANALYZED BY LEARNING PLATFORM**
- **ALLOWS LEARNING PLATFORMS TO DEVELOP A DEEPER UNDERSTANDING OF LEARNER BEHAVIORS AND PREDICT NEEDS**
- **RESULT: CONTENT RECOMMENDATIONS BASED ON HISTORICAL BEHAVIOR TO PRODUCE MORE EFFECTIVE LEARNING OUTCOMES IN THE FUTURE**

**ADAPTIVITY IS KEY TO ENGAGING TODAY'S WORKFORCE — AND IT'S NOT SOLELY DEPENDENT ON CONTENT FORMATS, BUT INSTEAD ON OPTIMIZING LEARNING PATHS TO GENERATE BETTER LEARNING OUTCOMES**

# THE AGE OF HYPER-PERSONALIZATION: TEAR A PAGE FROM MARKETING'S PLAYBOOK

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- **PERSONALIZATION IS MORE THAN AUTOMATING AN EMAIL SYSTEM TO INCLUDE SOMEONE'S FIRST NAME**
- **MARKETERS ARE LEVERAGING AI TO UNDERSTAND MORE ABOUT THEIR AUDIENCES TO PRODUCE BETTER CONTENT EXPERIENCES**

(i.e. how content is organized, curated and distributed + the results it generates)

**DATA IS CENTRAL TO MAKING THIS HAPPEN**

# AI GOES DEEPER THAN SEGMENTATION

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- **WILL AI KILL THE CONCEPT OF SEGMENTATION?**

Demographic data (age, location, gender, etc.) aren't deep enough metrics to satisfy personalized content demands of today's consumer

- **MARKETERS ARE LEVERAGING AI TO UNDERSTAND MORE ABOUT THEIR AUDIENCES TO PRODUCE BETTER CONTENT EXPERIENCES**

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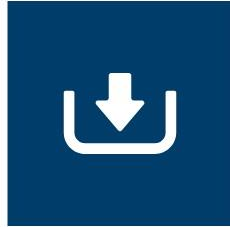


# FOR EXAMPLE

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**IF MARKET HAS 5 SEGMENTS, IT'S ASSUMED YOU WOULD HAVE 5 IDEAL CUSTOMERS**



**SEGMENTS ARE BASED UPON SPECIFIED DEMOGRAPHIC DATA**

Demographic details, such as age, gender, location, income level, etc.



**PROBLEM IS: SEGMENTATION ASSUMES PEOPLE WITHIN THOSE AUDIENCES ARE 'IDENTICAL'**

In reality, expectation vs. need can be very different

**SEGMENTATION WORKED WHEN DATA WASN'T AVAILABLE — TODAY, DATA ENABLES US TO UNDERSTAND CONSUMERS FROM A PERSONAL CONTEXT... AND THAT MUST EXTEND TO LEARNING**

# HOW DOES PERSONALIZATION WORK?

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## 1 HISTORICAL DATA

Machine learning begins to differentiate between right or wrong outcome via instruction and/or prior knowledge

## 2 FINE TUNING VIA FEEDBACK LOOP

Feedback loop provides continuous feedback on decisions the system makes. AI understands if historical decisions were correct or not (then tweaks its own algorithm and provides accurate results)

# MICRO-SEGMENTATION IS KEY TO CREATING LEARNING THAT CONNECTS ON A PERSONALIZED LEVEL

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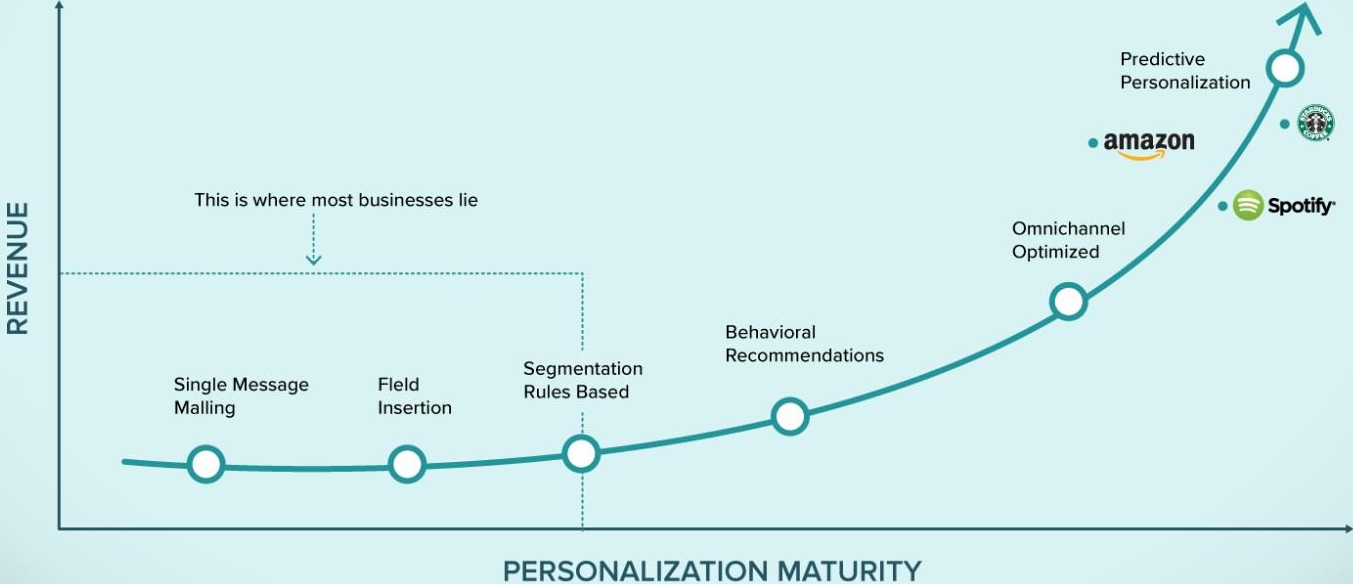
Provides a clearer picture about what each learner needs, what they value and how they behave.

- **AI WOULD BREAK DATA DOWN TO A POINT GRANULAR ENOUGH TO UNDERSTAND WHAT EACH LEARNER NEEDS MOST, WHEN THEY NEED IT MOST**

I.e. custom notifications programmed to ping a learner at a time they have shown to consume learning content the most (most effective time to engage them)

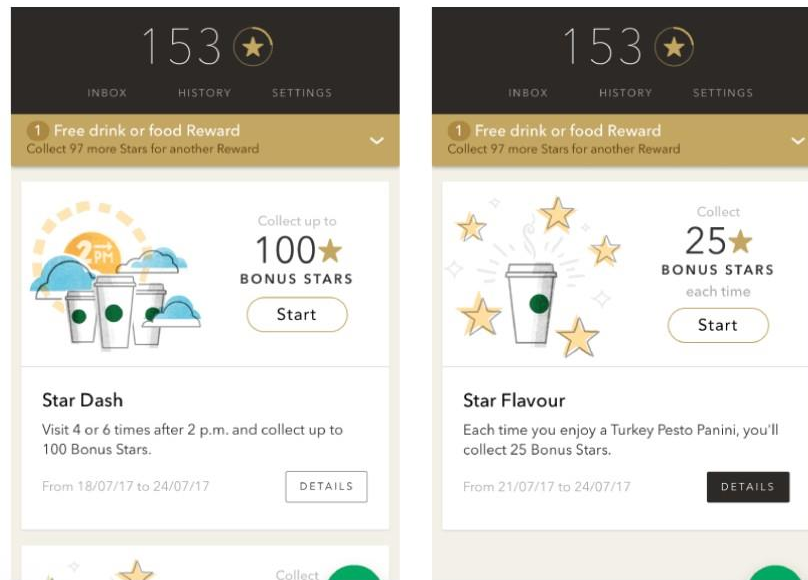
**“ORGANIZATIONS THAT EXCEL IN PERSONALIZATION WILL OUTSELL COMPANIES THAT DON'T BY 20%” — GARTNER**

# THE AGE OF HYPER-PERSONALIZATION



# 1 IN 4 STARBUCKS TRANSACTIONS COMES FROM ITS MOBILE APP THANKS TO PERSONALIZATION

Source: BCG



# SPOTIFY GOES BEYOND SONG/ARTIST SUGGESTIONS

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- LISTENING HABITS + GEOGRAPHIC DATA COMBINE TO PRODUCE PERSONALIZED CONCERT RECOMMENDATIONS



**Thank you for being a top listener.**

Hey it's Charles Kelley from Lady Antebellum.

You're getting this email because you are one of Lady Antebellum's top listeners on Spotify. Thanks so much for listening to so much of our music.

I'm going on a solo tour and as a way to say thank you I want you to be one of the first to get access to tickets.

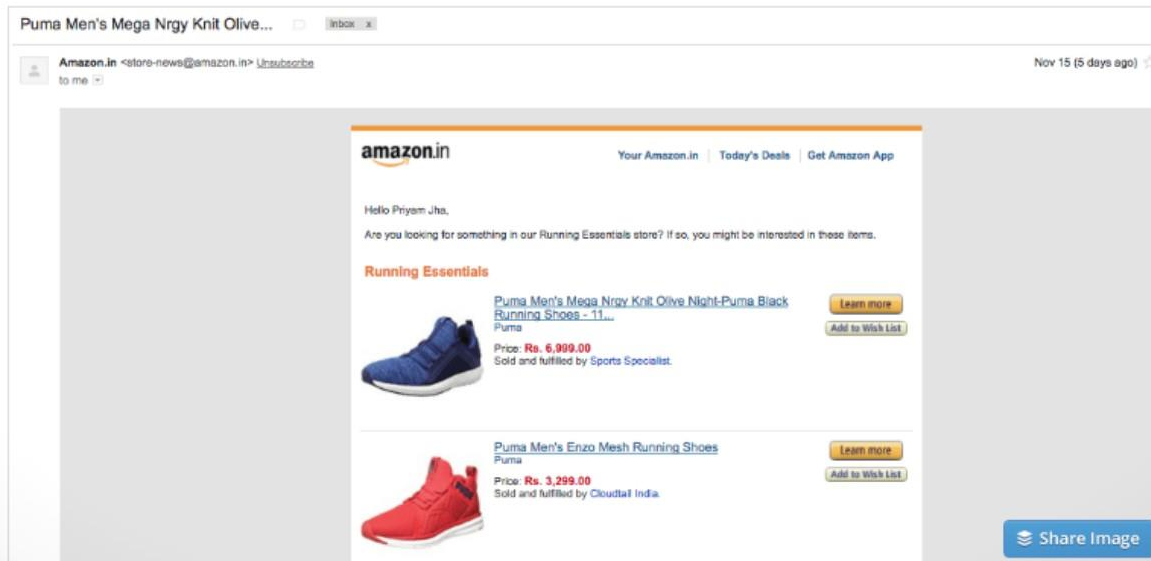
The presale starts **Wednesday October, 14th at 10am** and runs until Thursday, October 15 at 10pm. You'll be able to purchase up to 6 tickets while supplies last. The password is **BELIEVER**

I have a new single out and would love for you to listen to it on Spotify. It's called **"The Driver"** and also features Dierks Bentley and Eric Paslay. Hope you like it!

[BUY TICKETS HERE](#)

# 35% OF AMAZON'S CONVERSIONS ARE POWERED BY ITS AI RECOMMENDATION ENGINE

Source: Fortune



# AMAZON'S RECOMMENDATION ENGINE ALGORITHM IS CALLED 'ITEM-TO-ITEM COLLABORATIVE FILTERING'

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The algorithm suggests products based on four data points:

- 1 PREVIOUS PURCHASE HISTORY**
- 2 ITEMS IN SHOPPING CART (OR LEFT IN SHOPPING CART BUT NOT PURCHASED)**
- 3 ITEMS RATED OR LIKED BY THE USER**
- 4 ITEMS LIKED/PURCHASED BY SIMILAR CUSTOMERS**



# **IN A LEARNING CONTEXT, CONSIDER THIS EXAMPLE:**

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- 1 PREVIOUSLY VIEWED CONTENT (+ WHAT FORMAT THAT CONTENT IS PRESENTED IN)**
- 2 LEARNING OBJECTS SAVED TO PERSONAL CHANNELS/PLAYLISTS**
- 3 “LIKED” CONTENT, EITHER FORMAL OR LEARNER-GENERATED (SOCIAL LEARNING)**
- 4 CONTENT “LIKED” /CONSUMED BY OTHERS ACROSS THE ORGANIZATIONS W/ SIMILAR LEARNER PROFILES**

# WITH AI, THE LEARNER EXPERIENCE IS DRIVEN BY A DEEPER UNDERSTANDING OF THEIR BEHAVIOUR

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Not only does this make the lives of L&D admins easier, it makes them better at their jobs

- **AI ENGINE COLLECTS INSIGHTS RELATED TO THEIR ROLES, CONTENT CONSUMED, ETC.**
- **THESE INSIGHTS LEAD TO PREDICTIVE CAPACITIES THAT DELIVER BETTER LEARNING OUTCOMES**
- **ADMINS (HUMANS) USE THOSE INSIGHTS TO PRODUCE ADAPTIVE, INTUITIVE AND RESPONSIVE LEARNER JOURNEYS**

# AI WITHOUT DATA IS LIKE A CAR ON EMPTY

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AI needs regular data injections to be most effective - therefore it requires human intervention to produce optimal results



**AI NEEDS TO BE EXPOSED TO AS MANY VARIABLES AS POSSIBLE**



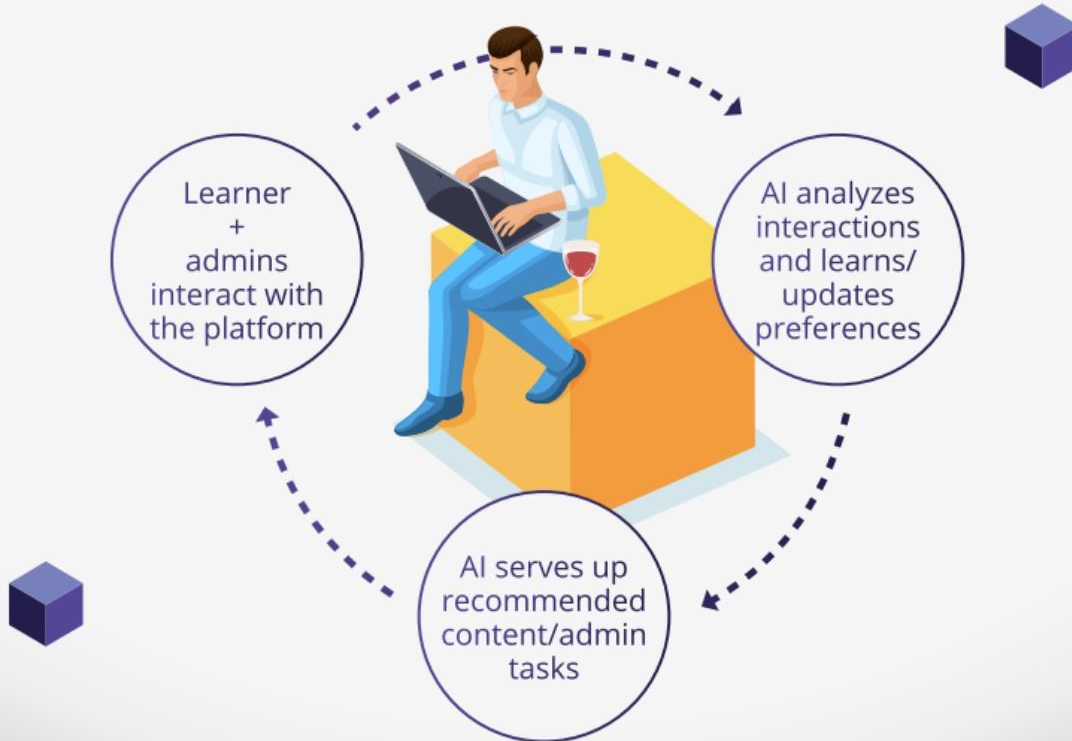
**MORE DATA = MORE INTELLIGENCE**



**TO CREATE TASKS TO COMPLETE BASED ON GOALS OF DATA ITS FED**

## Like A Fine Wine: AI Gets Better Over Time

The more you and your learners use and guide the AI-powered learning platform, the better the results it produces



# “TRAIN THE ”AI“ TRAINER”

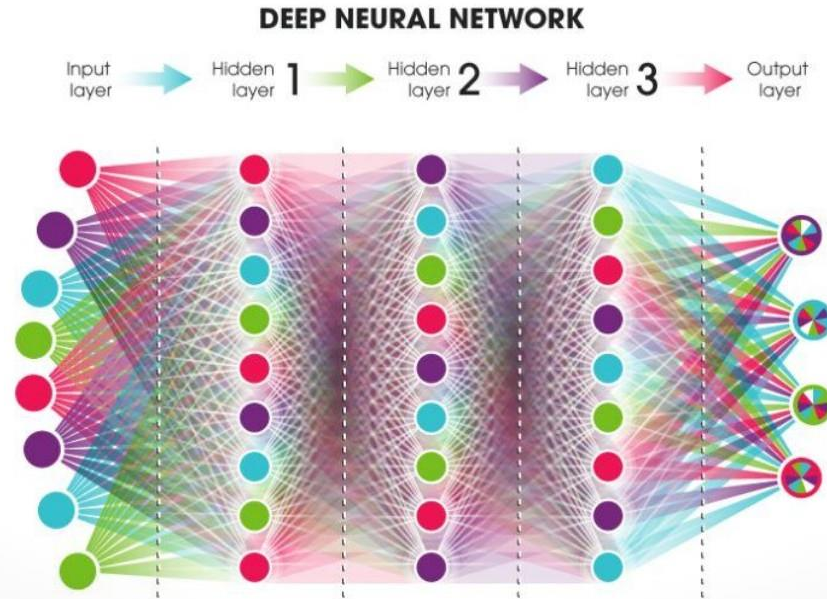
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No, we're not talking about replacing human trainers, but...

- **IMPROVING THE EFFECTIVENESS OF HUMAN-DERIVED LEARNING ACTIVITIES BY UNDERSTANDING HOW HUMANS INTERACT WITH AI**
- **THESE “OUTCOMES” ARE NOT FIXED, THEY WILL CONTINUALLY EVOLVE**
- **THIS IS WHERE WE CAN START TO UNDERSTAND THE INTERSECT BETWEEN AI AND THE PEOPLE WHO BENEFIT FROM IT**

# DEEP LEARNING AND ARTIFICIAL NEURAL NETWORKS

Deep learning represents the jump from telling computers what to do to providing examples of what to do and letting them figure out how to apply it to other situations.



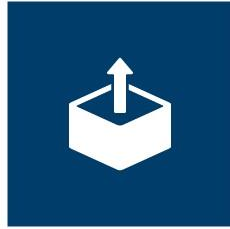
# DEEP LEARNING VASTLY IMPROVES CLASSIFICATION

Classification is the action of training AI to recognize data and classify it for multiple applications – and it's particularly useful in learning



## CLASSIFY AND ORGANIZE CONTENT

Will greatly reduce the cost of content development



## ACCURATE CLASSIFICATION MINIMIZES RESOURCES NEEDED TO REPURPOSE CONTENT

Without automation this can be a tedious and time-consuming task



## POTENTIAL TO IMPROVE CLASSIFICATION AND INSTRUCTIONAL DESIGN

Identifying related concepts across subjects is powerful – reduces resources needed to repurpose content + allow AI to produce content in subjects not initially developed (via content pills)

# AI'S IMPACT ON DATA IN DIGITAL LEARNING

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- **DATA = CONTENT ANALYTICS: THE OPTIMIZATION OF LEARNING MODULES, CONTENT CONSUMED IS ANALYZED TO MAXIMIZE IMPACT, OPTIMIZED TO SATISFY LEARNER NEEDS (I.E. ADAPTIVE LEARNING)**
- **ENABLE BETTER OPTIMIZATION OF COURSE CONTENT AND DELIVERY**
- **CURRENTLY, ADMINS MUST PROCESS/ANALYZE DATA MANUALLY**

Courses aren't a one-time activity - they are revised based on feedback

Tedious/time-consuming, but an absolutely critical activity



# AI'S IMPACT ON DATA IN DIGITAL LEARNING

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- **AI USES DEEP NEURAL NETWORK + DEEP LEARNING TO PROCESS DATA + OPTIMIZE COURSE CONTENT W/O MANUAL INTERVENTION**
- **THIS HELPS ADMINS IDENTIFY AREAS WHERE LEARNERS MIGHT REQUIRE REINFORCEMENT**

AI suggestions/enrollments will play a role in supporting that necessary reinforcement
- **AI IDENTIFIES AREAS WHERE CONTENT IS NECESSARY TO FILL GAPS**

# TAKE PERSONALIZATION TO NEVER BEFORE SEEN LEVELS

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Personalized learning involves passing some control over to learners, giving them a way to manage how they progress through their L&D activities

- **WITH AI, INSTEAD OF PRE-DETERMINED PATHWAYS, THE LEARNER TAKES MORE CONTROL OVER THE DIRECTION OF THEIR LEARNING**
- **AI GATHERS DATA TO DETERMINE A LEARNERS KNOWLEDGE OF A SPECIFIC SKILL, THEN CREATES A CONSTANTLY EVOLVING LEARNING PATHWAY FOR HIM/HER TO TAKE**
- **AI DOESN'T JUST ENHANCE THE LEARNING PLATFORM, BUT MAKES IT RESPONSIVE TO LEARNER NEEDS BY ADAPTING INTELLIGENTLY TO THEIR REQUESTS**

# IN CONCLUSION...

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AI transforms learning in a competitive advantage, and we're just scratching the surface



## AI IS A VEHICLE FOR FOUNDATIONAL CHANGE IN L&D

It will become the beating heart of your learning activities



## DATA IS YOUR FRIEND

The best results come from humans and AI working in tandem



## AI IS NOT STATIC - IT CONTINUALLY EVOLVES

Continual evolution depends on consistent data injections to produce better learning outcomes



**THANK YOU!**



**ANY QUESTIONS?**

# SEE YOU AT ATD IN WASHINGTON!

**STOP BY AND SAY 'HI!' TO THE DOCEBO TEAM AT BOOTH 719  
FOR A CHANCE TO WIN A PAIR OF APPLE AIRPODS!**

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