Transforming Travel in a world of Mobile, Data and AI

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IBM **Industry Academy**
IBM **Institute for Business Value**
IBM **Research**

TRAVELDAILY
CONFERENCE

IBM

More than half of the names of companies on the Fortune 500 have disappeared since the year 2000

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Travel-specific forces are already shaping the industry

Globalization of low-cost providers

Low-cost airlines accounted for 28% of all air passenger traffic in 2016, exceeding a billion passengers for the first time[7]

Travel safety and security disruptions

45% of outbound travelers are worried about terror threats and nearly two-thirds say they will switch to a destination they perceive as safe[8]

Experience-driven travel

TripAdvisor's non-hotel segment – vacation rentals, restaurants and attractions – grew 35% in the third quarter of 2016 to $101M[9]

Substitution

Between 2017 and 2021 shipments of VR devices are expected to grow by over 400%, with some of them finding their way into the hands of travelers[10]

Multi-modal travel enablement

In July 2017, Waynaut and Octraves Technology announced a partnership to launch multimodal search and booking[11]

Legacy disruption under threat

Winding Tree is building a public blockchain for the travel industry; it would make no profit on transactions and distribution on its platform[12]

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Digital technology is redefining possibilities in the travel industry…

Artificial Intelligence

- Serves as the engine for travel personalization
- Identifies business-critical operational improvements

Mobile

- Becomes the primary interaction channel
- Empowers front line staff with insights
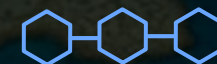
APIs/ Microservices

- Enables travel partners to collaborate automatically
- Opens the industry to external innovations
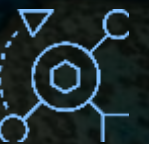
Cloud

- Enables travel companies to move beyond legacy
- Delivers cost-effective innovation quickly

Blockchain

- Promises to improve identity management and distribution
- Enables transformational business model innovations

Internet of Things

- Equips physical assets with digital data
- Optimizes existing operational processes

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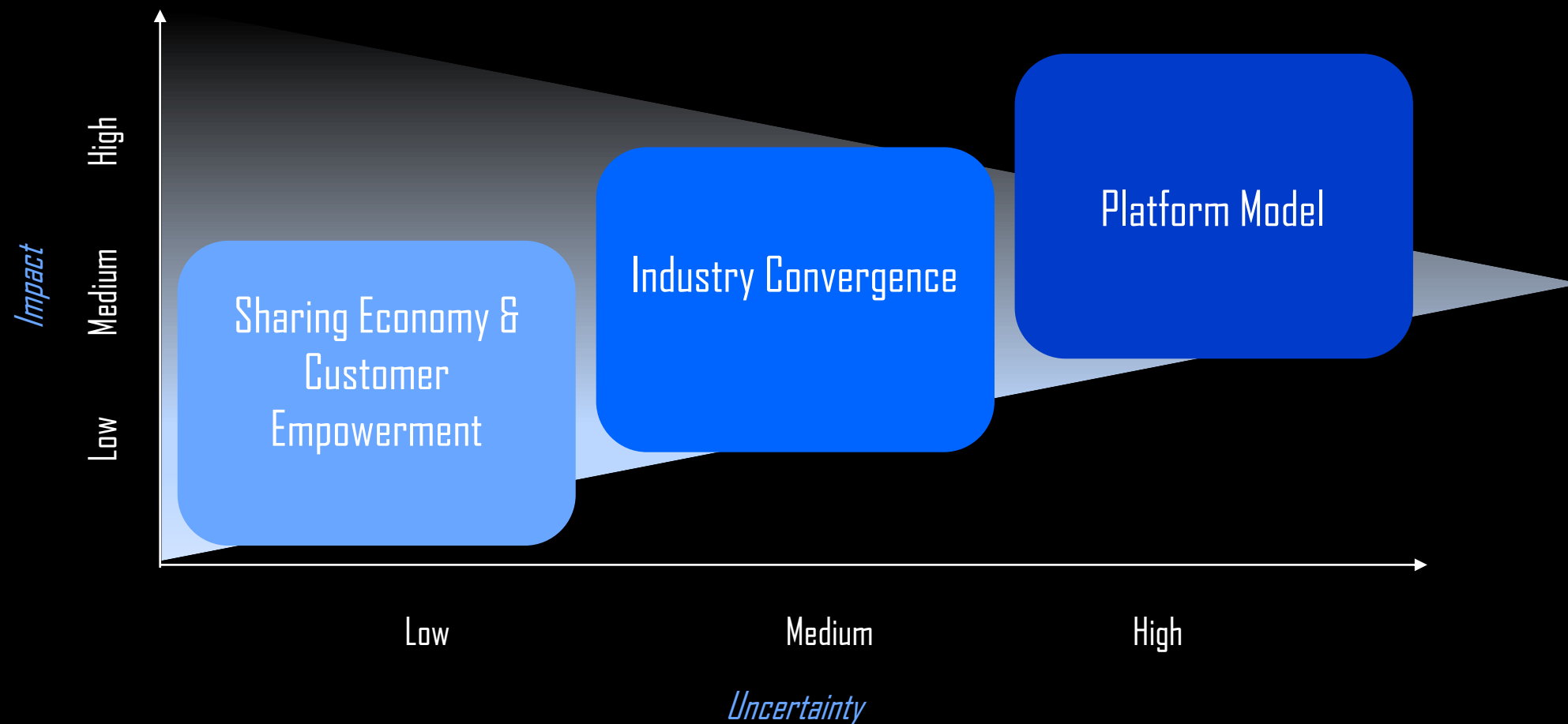# …and emerging digital business models and capabilities are driving convergence and industry-based platforms.

World's largest transportation company owns no vehicles

UBER

World's largest accommodations provider owns no real estate

airbnb

World's most valuable retailer has no inventory

Alibaba.com

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Implications
- T&T companies are feeling shift of power to customers with sharing economy and eCommerce
- Industry convergence has high risk of disruption yet significant opportunities
- The specific-form of a platform model is unclear, but its eventual emergence is certain

Impact

High

Medium

Low

Platform Model

Industry Convergence

Sharing Economy & Customer Empowerment

Low   Medium   High

Uncertainty

IBM Travel Platform

Retail - Operations - Maintenance

An open platform that works with your existing systems and tools

Rooted in Design Thinking & User Experience

Made for Mobile

Cloud Based

Cognitive/AI at Core

Pick and Mix Components

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Flight Ops

In flight Services

Pilots

Ground Handling

Maintenance

Digital Travel Platform

Data & Analytics

SOR's

Artificial Intelligence

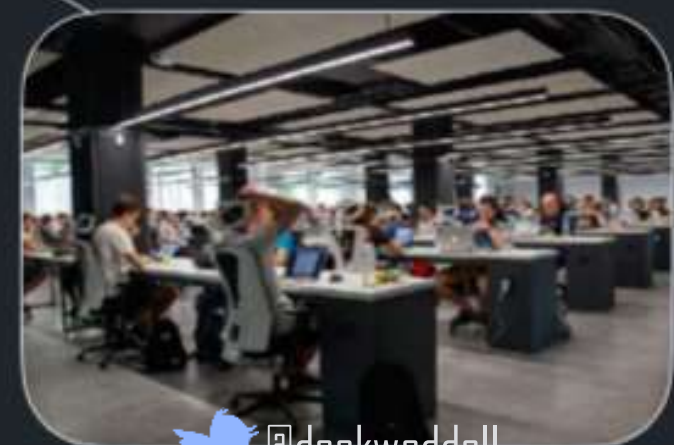**Call Center**

Airports

Digitization

Automation

Data & AI

Collaboration

Employee Empowerment

Learning Culture

SOC

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Aviation MobileFirst Portfolio

...Planned Extensions

Customer Service Agent

Passenger Care
Check in, IRROPs handling, ancillary sale

Rapid Board
Mobile boarding, doc check & analytics

Manage Gates
Turn management multiple gates

Turn Around Manager
Collaboration on aircraft turn process (LH)

Gate Care
Report on incident or defect (FIN)

Task Allocation
Manage review and approvals of orders (FIN)

Flight Attendant

Passenger +
Day of flight info w/pax info & reporting

Ancillary Sales
Onboard sales w/pax analytics

Cabin Care
Onboard Cabin Defect Reporting

Duty Plan
Manage flight duty assignment (LH)

Pilot

Plan Flight
Discretionary fuel planning & analytics

FlyNOW
Day of flight info w/flight brief & manuals

Roster
Crew schedule & certification notifications

Turn Around Manager
Collaboration on aircraft turn process (LH)

Duty Plan
Manage flight duty assignment (LH)

Line Maint.

Assign Tech
Engineer allocation & turn status mgmt

Inspect & Turn
Task & work order info & reporting

Defect Report
Report defect found (FIN)

Ground Operations

Manage Turn
Below the wing turn operations

Turn Around Manager
Collaboration on aircraft turn process (LH)

Ramp Agent
Baggage load assist app (LH)

Team Member
Companion to Manage Turn (KLM)

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When people, technology and data work together in harmony,
we can **Transform**

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Leadership in Cognitive and AI in Travel

World's Leading AI Travel Technology Provider 2018

27

US patents - Granted or Pending

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Virtual Agents and Chatbots using AI

Leverage IBM Watson and other services (e.g. language translation, tone analyzer) to build a natural conversational advisor that enables customers or employees with expertise and instant access to best-fit information

Enable employees with knowledge

Pull in internal documentation such as IT, HR, Maintenance, Call Center FAQ's, or any other valuable information and use experts to curate
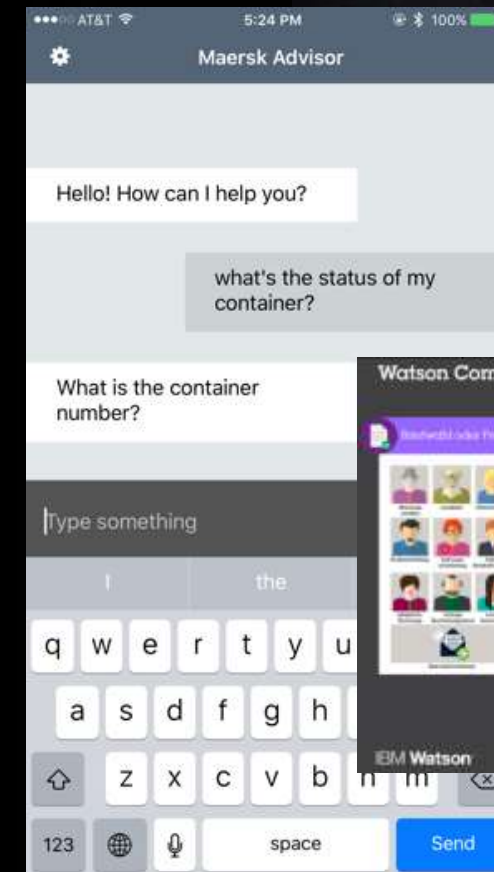
Automate with Watson

Enable employees to understand and self-serve based on the provided body of knowledge

Understand, interpret, and improve

Provide additional capabilities and new data sources to better enable current processes

Enable agents and managers with 360º views, insights, and context on each customer using AI

"I CAN ANSWER 33,000 DIFFERENT QUESTIONS FROM 33,000 DIFFERENT CUSTOMERS AT THE SAME TIME."

With IBM Services and Watson, thousands of service agents can resolve issues 70% faster—while deepening customer engagement and loyalty.
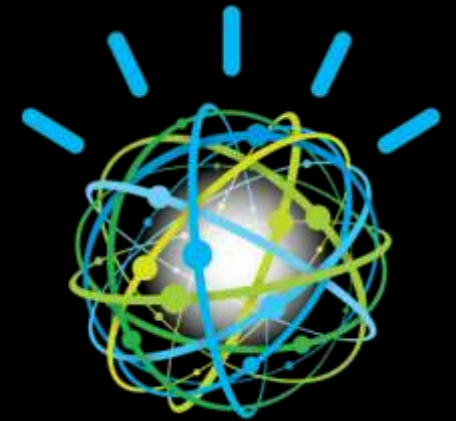
Cognitive in Call Centers

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Malaysian Airlines

AI-based pricing leads to higher

conversions & revenue during

promotional campaigns

Customers that received personalized
recommendations made over

20% more bookings

than customers in the control group

54% more bookings

in business class

Test Group members created

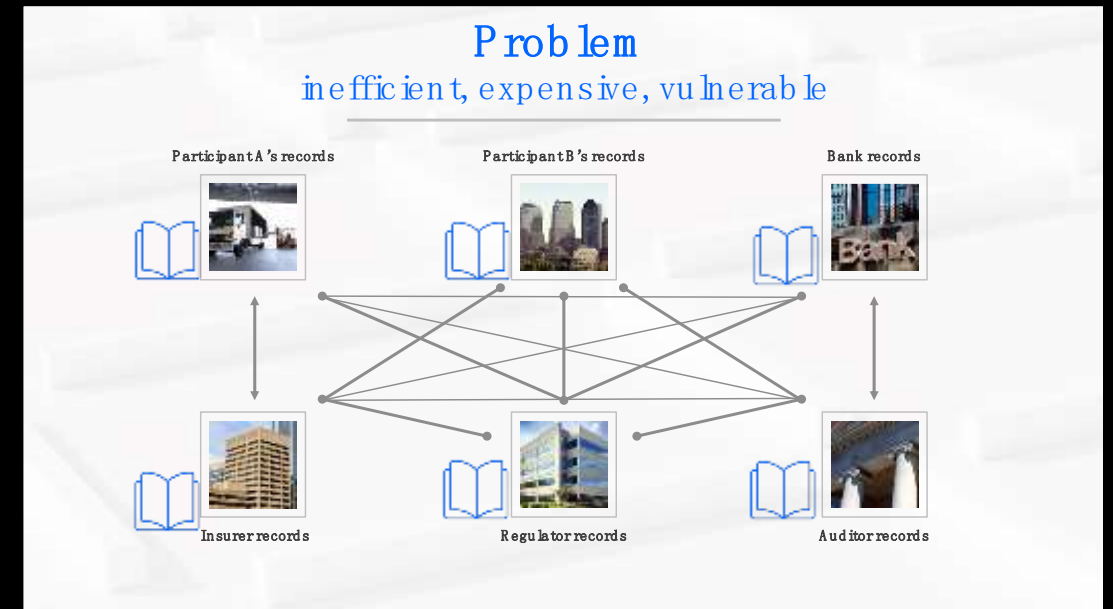## 44% more revenue

compared to Control Group members

Launch partner for IBM's AI-based Personalized, Pricing and Offers (PPO) using proprietary AI algorithms analyzing hundreds of thousands of data points to dynamically deliver highly-personalized offers and pricing.

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Blockchain holds new promises for companies in travel

- **Business Networks** connect businesses

- **Participants** with Identity

- **Assets** flow over business networks

- **Transactions** describe asset exchange

- **Contracts** underpin transactions

- **The ledger** is a log of transactions

Blockchain provides a secure, shared, replicated ledger

Problem
inefficient, expensive, vulnerable

Participant A's records   Participant B's records   Bank records

Insurer records   Regulator records   Auditor records

Solution
A shared, replicated, permissioned ledger···
···with consensus, provenance, immutability and finality

Participant A's records   Participant B's records   Bank records

Blockchain

Insurer records   Regulator records   Auditor records

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Travel blockchain initiatives are seeking to re-imagine and transform digital business and industry processes

IDENTITY	MARKETPLACES/ DISTRIBUTION	CURRENCY/LOYALTY	OPERATIONS/OTHER

IDENTITY

sovrin — identity for all
Non-profit self sovereign network

DIF
Decentralized identity ecosystem

HYPERLEDGER
Open-source project Indy

civic
Secure identity ecosystem

SELFKEY
Self sovereign provider w/ wallet

ShoCard
Secure identity management

MARKETPLACES/ DISTRIBUTION

bee | beenest
Bee-token home-sharing mktplc

WINDING TREE
Decentralized travel marketplace

OZONE
Open-source travel distribution

TRAVEL BLOCK
TVRL-Token based booking

LOCKTrip — 0% Commissions on Bookings
LOC-Token 0% Comm (Hot/Vac)

TravelChain
User-review/ratings travel mktplc

Travala.com — Powered by Blockchain
AVA-token 0% comm (Hotel)

CURRENCY/LOYALTY

loyyal
Loyalty and partner network

Travelport
Hotel Settlement & Travel Content

FURTHER
ATON-token travel billing/settle

Trippki
TRIP-token Hotel/Rewards

Sandblock
SAT-token Loyalty/reward netwrk

TripX
Crypto-payment acceptance

OPERATIONS/OTHER

AERON
Aviation Vital-log/Safety Info (certifications, hours, checks)

TrustaBit
Airline disruption & compensation

OwlNest
Hotel PMS/Booking System

REGA Luggage Crowdsurance
Luggage Crowd-Insurance

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Scaling Quantum by Partnering with Industry - IBM Q Network

Focus areas

1. Accelerate Research

2. Develop Commercial Applications

3. Educate & Prepare

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Transformation is **Happening**

What actions are needed to get going?

Opportunity one

Invest to profit from Artificial Intelligence-enabled travel

Obtain new sources of data on customers and extract maximum insights from existing data using AI-enabled systems

Invest in, experiment with, and deploy AI across business silos and customer segments to get good at this critical but emerging capability

Opportunity two

Differentiate travel experiences and expand the ecosystem

Extracts insights from traveler data to create unique travel experiences for diverse travel segments

Leverage insights across the travel ecosystem, and combine with insights from technologies like IoT, cloud, analytics and mobile to deliver distinctive experiences across every step in the travel journey

Opportunity three

Embrace the travel distribution revolution

Actively support the development, maturation and use of new methods of distribution

Eschew status quo solutions and providers in favor of disruptive methods of managing inventory, marketing services and selling to customers

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