# IBM Consulting Global
# Hybrid Retail (HC4R) - Store

# Economic data and consumer preferences are accelerating the need for innovation in retail operations and digitization of stores.

**12%**

Retail wage inflation last 24 month, compounded by associate turnover

**60%**

C-Suite Executives say Omnichannel operations are key to digital transformation

**72%**

Consumer rely on visiting stores for part or all of their shopping

# Imagine the next generation store

Digital integration, empowered associates, every process orchestrated with AI and full visibility to make continuous improvements.

## Seamless Experiences

Personalized, contextual experiences across every touchpoint – digital and physical.

## AI Workflows

Re-engineer work with intelligent workflows that automate non-value add activities and empower associates
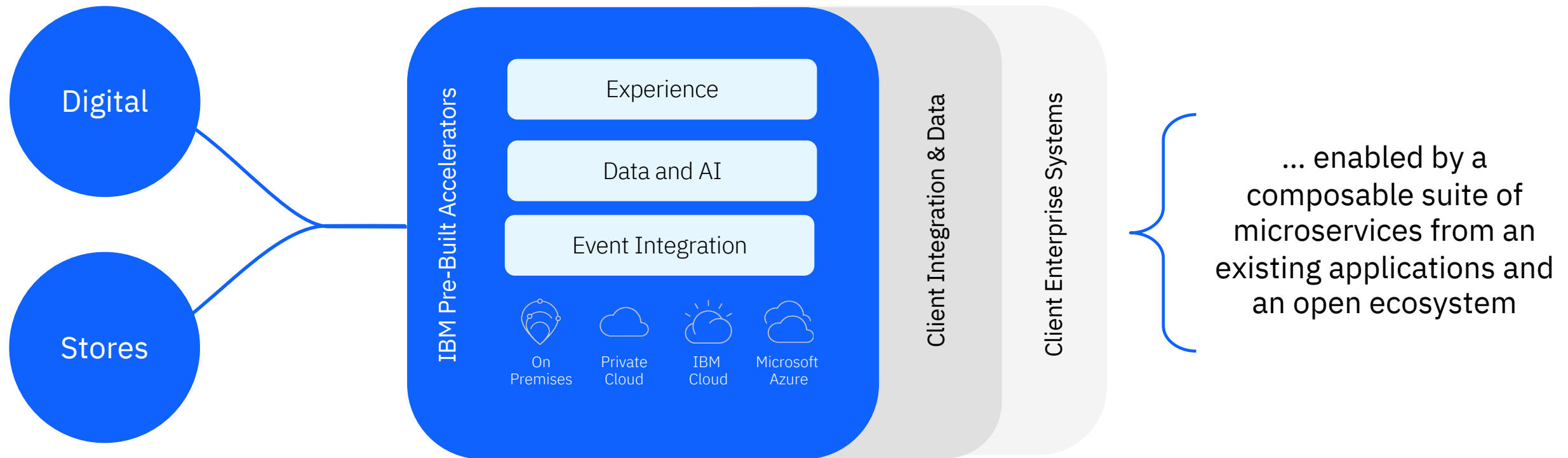
## Optimized Model

Maximize profitability with AI powered insights for marketing merchandising, operations and more

## Digital Stores

Modernize stores and innovate at speed – open, remodel, reformat and re-imagine.

\* Source : IBM client interviews

# IBM's Hybrid Retail offering delivers seamless hybrid shopping experiences and agile operations on a hybrid cloud edge platform with an open ecosystem.



Digital

Stores

IBM Pre-Built Accelerators

Experience

Data and AI

Event Integration

On Premises

Private Cloud

IBM Cloud

Microsoft Azure

Client Integration & Data

Client Enterprise Systems

... enabled by a composable suite of microservices from an existing applications and an open ecosystem

# Pre-built industry-designed accelerators to allow best-of-breed applications work together as a unified platform, improving operating performance and customer experience.



**Event Processing and Enterprise Integration**
Predefined patterns to facilitate real-time event processing and integration with existing applications

Personalised customer service, seamless transactions and payment to drive convenience and experience across all customer channels both digital and physical

**Engage & Pay**

**Retail Data Exchange**
Connected data to surface real time insights and AI to automate and optimize store processes

Intelligent inventory and assortment with optimized online and instore fulfilment and on shelf availability to satisfy customer expectations

**Inventory & Fulfilment**

Interactive displays and shelves, intelligent customer marketing and mobile services that extends digital channel experience to store

**Digital Content & Marketing**

**Store Operating Platform**

**Experience Orchestration**
Headless design with intelligent adaptors to orchestrate experiences across physical and digital touchpoints

**Agile Deployment**
Automation tools to enable rollout and management of new capabilities in store and at the edge

IOT connected equipment which harness AI driven insights to pro-actively predict outages and lower costs

**Store & Assets**

**Associates & Management**

Intuitive mobile applications that mirror integrated omni-channel store processes and roles, making work easier and more efficient for associates

# Total store orchestration powered by AI

Next-generation store operations with data, AI, and automation, connecting experiences, reducing operating costs and accelerating innovation.

## 1. Intelligent workflows and automation

### Event Driven Workflows
Automatically capture, classify and distribute events associated with omni-channel activity, IOT or other store processes, e.g., replenishment, shrink fulfillment, customers pricing

### AI Optimized Task Management
Apply intelligent workflows to assign and distribute tasks between humans and machines based on real-time understanding of capacity and capabilities in real-time

### AI & Data Driven Automation
Use data and AI (automation, computer vision, etc.) to automatically manage store processes and provide next generation insights

## 2. Superpowered store associates

### Mobile Apps
Empower store associate with persona-based tools that drive success in their role and feature experiential best practices through gamification and intuitive UI

### Re-imagined Commerce
Connect associates with checkout and service technology on the go to help reduce friction in stores and delight customers

### Digital Assistant with GenAI
Provide associates with intelligent digital agents that simplify work, accelerate access to information and help focus on customer and operational outcomes

## 3. Store operating platform and control tower

### Instrumented digital store
Digitally enable and connect store infrastructure and customer touch points to lower cost, surface digital content and create a store operations center

### NextGen Op Model and KPIs
Use insights to innovate and improve the store operating model, correlating metrics with event/task execution to identify improvement areas

### Rapid Deployment of New Technologies
Accelerate with faster deployment of new capabilities enabled by AI Ops, GenAI, watsonx Code assistant and Edge technology

# 1. Intelligent workflows and automation

Automate the capture, orchestration and surfacing of events, data and capabilities to store associates and customers.

**Capture**

Consolidate event triggers from anywhere - application, microservice, IOT, environment or manual process

**Orchestrate**

Normalize data for retail processes - apply AI to create intelligent workflows and next generation insights

**Surface**

Integrate experiences everywhere - data, application or microservice to anyone, any device, any channel

## Faster Innovation with Industry Ready IBM Accelerators

- ✓ Event classification designed for real-time digital retail store process management
- ✓ Open retail industry data model and AI models to optimize and automate tasks
- ✓ Pre-built adaptors and patterns for retail industry applications and digital devices
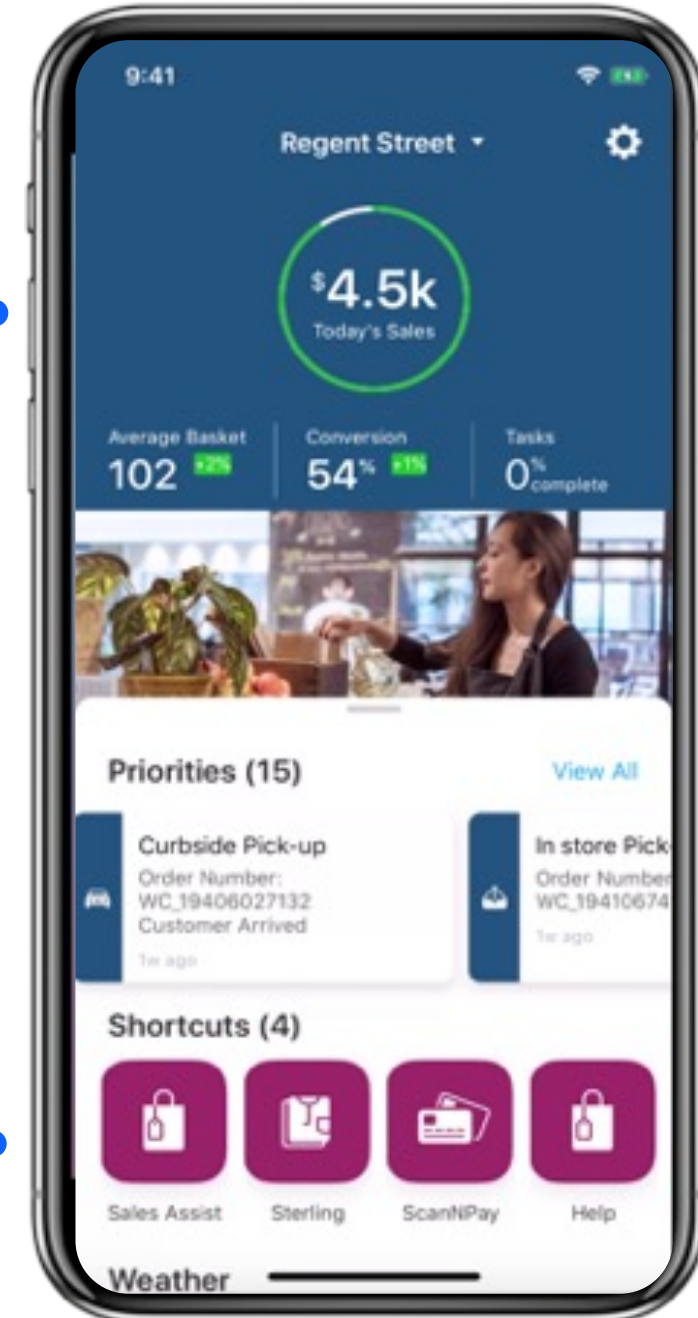
# 2. Superpowered store associates

Leverage pre-built configurable mobile assets for store associates.

**Intelligent task orchestration, closed loop task management**

- Single sign-on with short cuts to essential process applications

- Role and store user access to support multi-store interaction and individual settings management

- Priority tasks with summary description and active links to related process application content

- Updated store performance KPIs

- Digital assistant and Gen AI capabilities

## Intelligent Apps – Mobiles and Wearables



Nextgen Store Performance KPIs

Priority Tasks

Short Cuts to apps

Digital Assistant

# 3. Store operating platform and control tower

Deliver personalized experiences through superpowered associates, orchestrated by intelligent workflows, managed by an operations center, all powered by a Store Operating Platform.
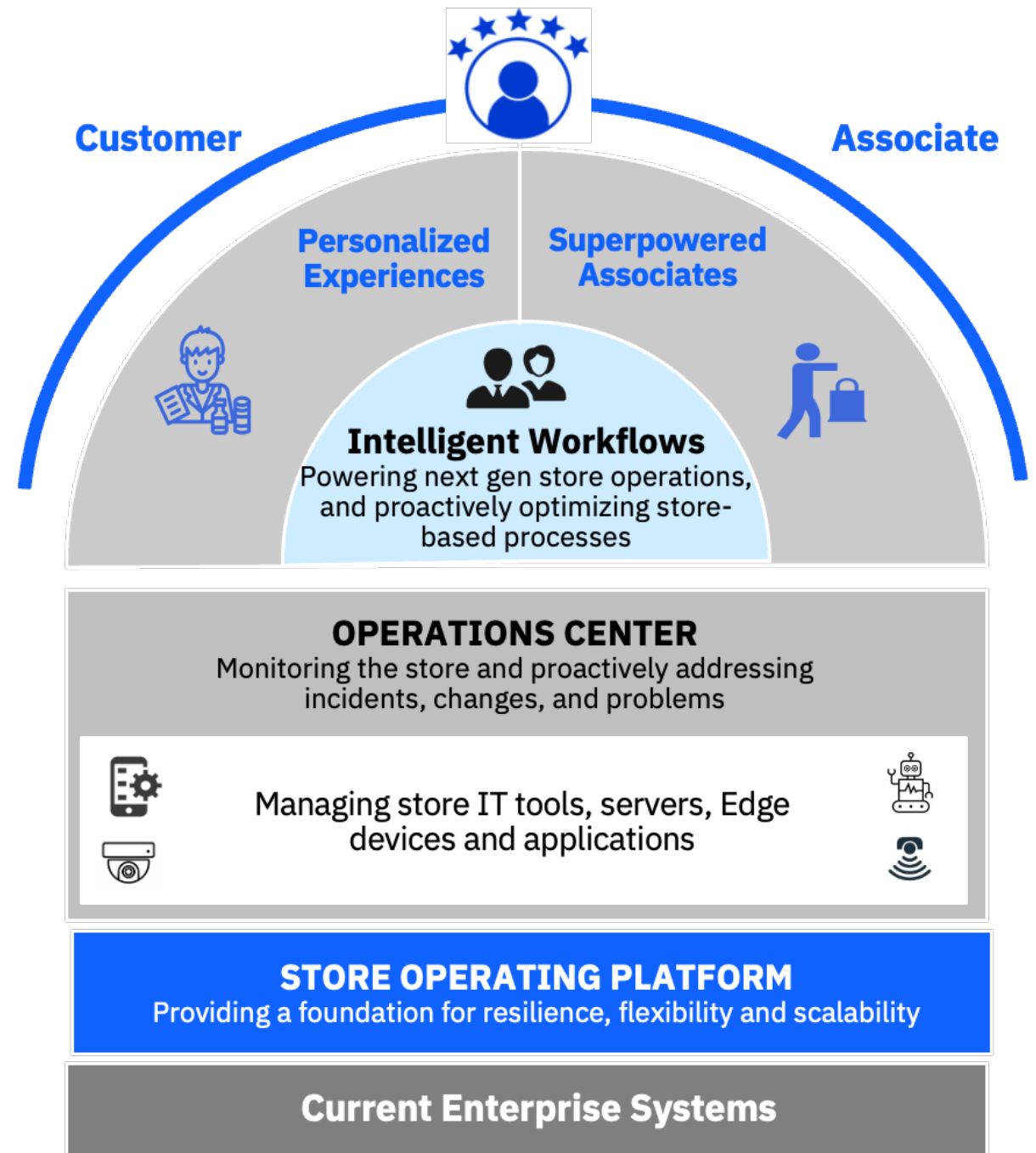
Best in class applications, unified by IBM assets for:

**Experience Orchestration**
Headless design with intelligent adaptors to orchestrate experiences across physical and digital touchpoints

**Retail Data Exchange**
Connected data to surface real time insights and AI to automate and optimize store processes

**Event Processing and Enterprise Integration**
Predefined patterns to facilitate real-time event processing and integration with existing applications

**Agile Deployment**
Automation tools to enable rollout and management of new capabilities in store and at the Edge



Customer

Associate

Personalized Experiences

Superpowered Associates

**Intelligent Workflows**
Powering next gen store operations, and proactively optimizing store-based processes

**OPERATIONS CENTER**
Monitoring the store and proactively addressing incidents, changes, and problems

Managing store IT tools, servers, Edge devices and applications

**STORE OPERATING PLATFORM**
Providing a foundation for resilience, flexibility and scalability

**Current Enterprise Systems**

# Unify experiences, integrate disparate data sources and automate event-driven processes in real-time with omni-channel & store platform components.

## Experience Orchestration
- Headless microservices orchestrate data access and transactions across systems of record, application and data sources, tailored for retail use cases such as commerce associate productivity, store operations and KPI dashboards
- Backend for customer and associate facing web and mobile apps, virtual assistants, kiosks, and other API consumers

## Retail Data Exchange
- Data fabric / hub for reference and operational data based on a retail industry model facilitates ingestion and syndication to ecosystem applications
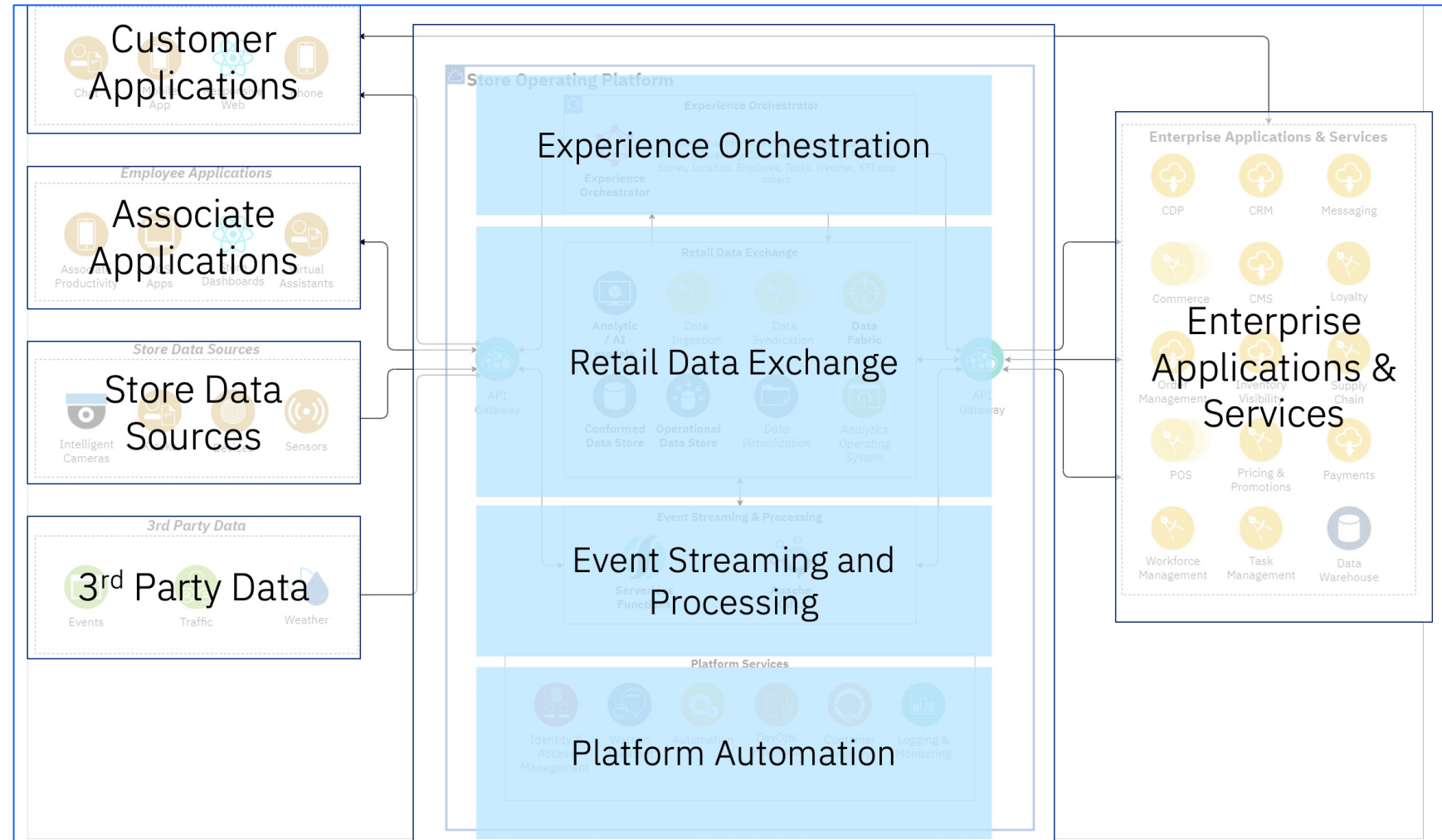- Analytic / AI models for intelligent workflows, optimized operations and next best actions

## Event Streaming and Processing
- Real-time event streaming and processing - capture, classification, and orchestration of store processes
- Facilitate inbound and outbound integration between store and enterprise applications and data sources
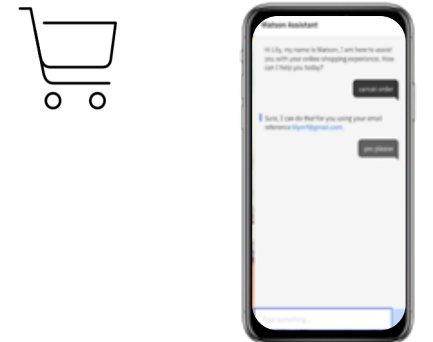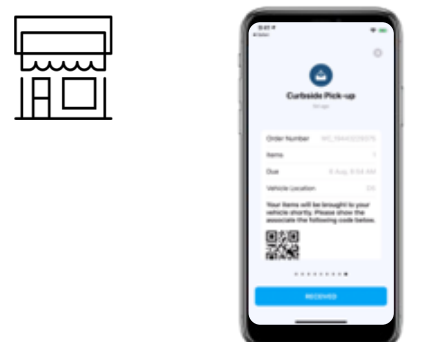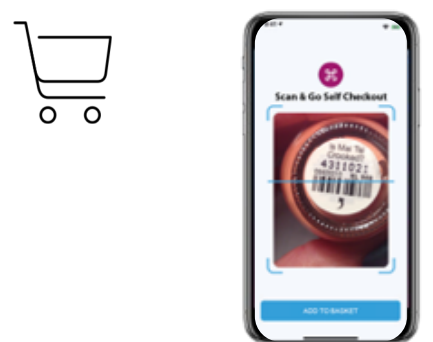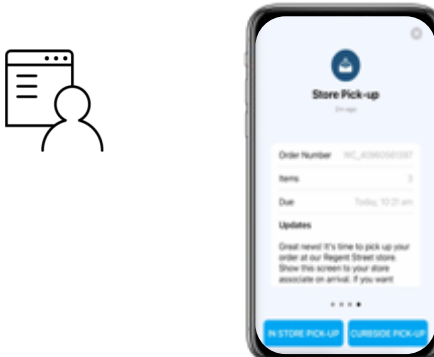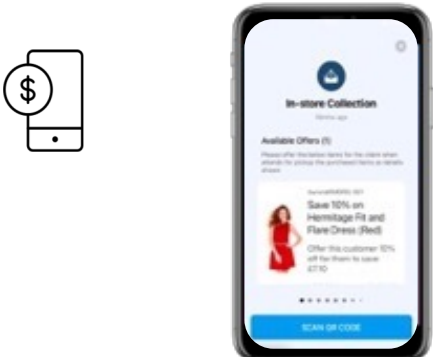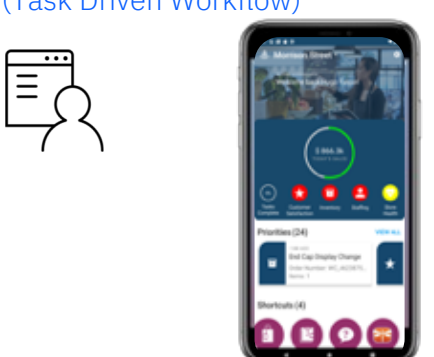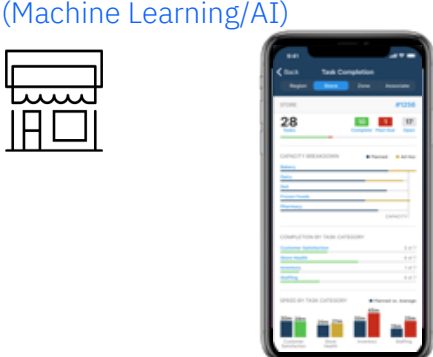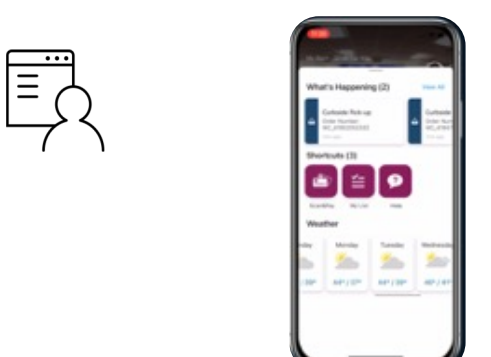
## Platform Automation
- Automation of infrastructure provisioning (infrastructure as code) and deployment (CI/CD)
- Cloud and Edge management (infrastructure, service, APM, security, etc.)



**Store Operating Platform**

Customer Applications
Associate Applications
Store Data Sources
3rd Party Data

Experience Orchestration
Retail Data Exchange
Event Streaming and Processing
Platform Automation

Enterprise Applications & Services

# Every transformation journey is unique, and our foundation extends experiences over time with an open ecosystem.

| Automated On Shelf Availability (Computer Vision/AI) | Integrated Digital Assistant (Natural Language/Voice) | Curbside and Concierge Customer Order Pickup | Flexible Checkout and Endless Aisle (Scan/NFC/Digital Receipts) | Intelligent Inventory Management (RFID & Robotics) |
|---|---|---|---|---|
| Real-Time Customer and Associate Notifications | Omni-Channel Mass Personalization (Digital/Physical Experience) | Scheduled tasks and process guidelines (Task Driven Workflow) | Task Orchestration and Performance Insights (Machine Learning/AI) | Weather Insights and Extended Retail Data |

**Illustrative examples**

# Adopting an integrated retail orchestration platform approach scales potential value creation.

## Indicative Operating Margin Improvement
Typical steady state impact and contributory areas from initial selected use cases

| 0.5-1.0% | 0.3-0.5% | 0.05-0.15% | 0.05-0.15% | 0.02-0.07% |
|----------|----------|------------|------------|------------|
| Lower labour costs | Higher sales | Lower stock costs | Improved promo effectiveness | Lower store run costs |
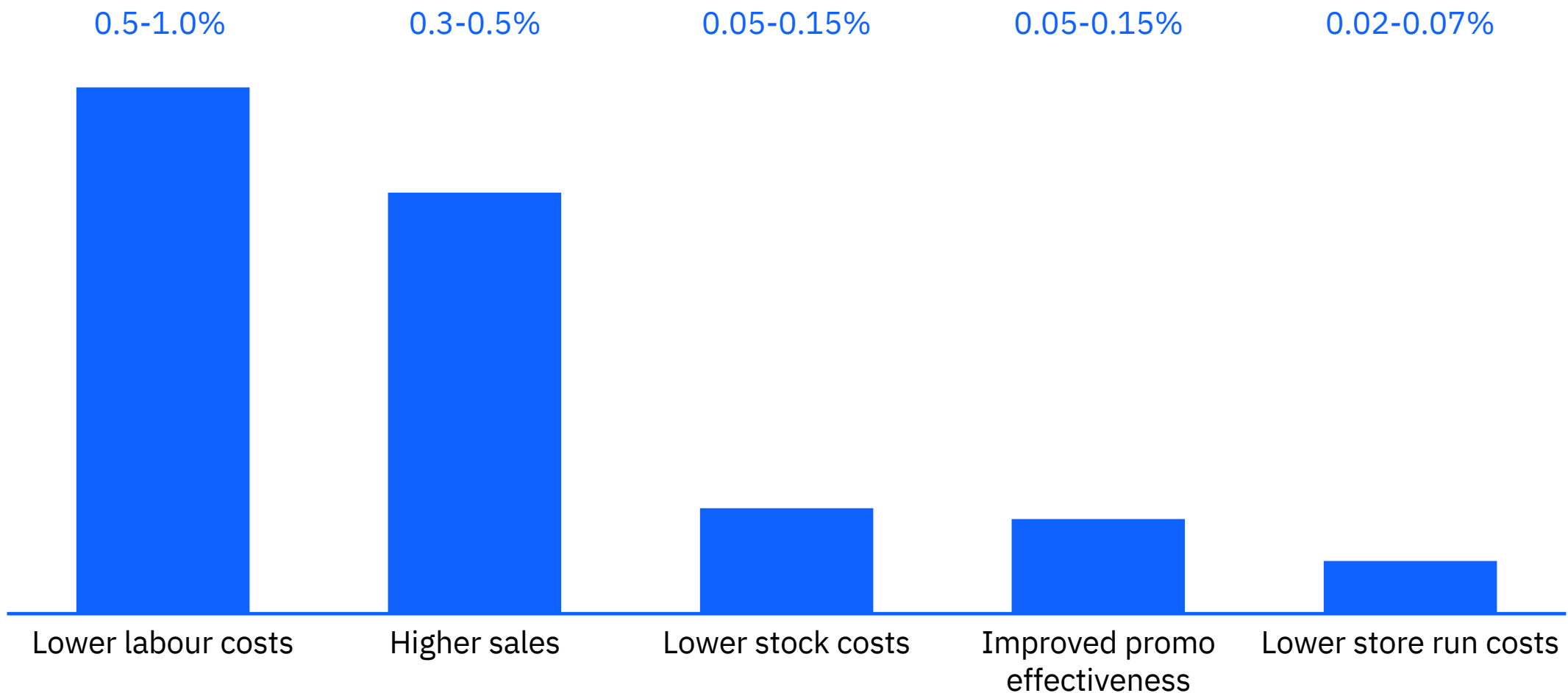
# IBM's Garage Framework brings your vision to life in an MVP, reducing risk by pursuing innovative ideas, providing a path to scale innovation, and avoiding technical debt.



**Co-Create**
envision the future

**Co-Execute**
iterate to product-market fit

**Co-Operate**
scale to market

Hypothesis in test

Hypothesis in test

Hypothesis in test

Measure & Learn

Measure & Learn

Measure & Learn

Build MVP

Build MVP

Build MVP

Business Initiative
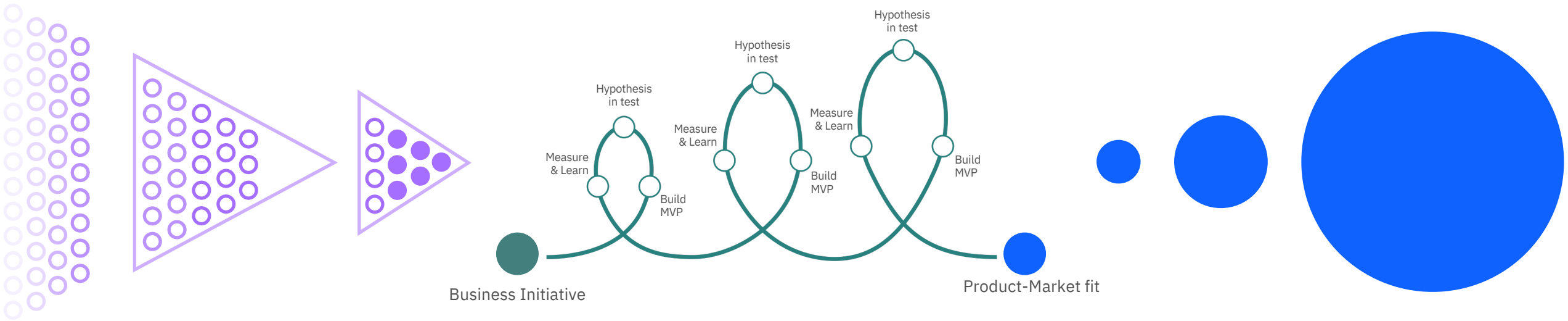
Product-Market fit

Opportunity Backlog

Form Hypotheses Validate and Prioritize

Initiative Backlog

Hypothesis iterations (feasibility, viability, desirability) in attempt to reach product-market fit with an MVP (near term)

Scale MVP into Enterprise Product with continuous DevOps to optimize based on in-market response

**Outcomes**

Employee Research
Persona Definition
IBM Design Thinking Led Co-Creation
Outline Experience Hypothesis
Create prioritized product(s) backlog
Design MVP and experience horizon
Define Objectives / Measures of Success / KPIs

Build MVP (near term)
Collect Feedback
Test & Iterate Hypothesis
Evaluate Outcomes
Validate w/ End Users
Conduct Playbacks for Users and Stakeholders
Include Voice of the Employee
Refine product backlog
Start monitoring MVP Impact

Deploy Production Architecture
Consider Security & Compliance
Digital Change Management
Design Optimization
Capability Mapping
Continuous Value Measurement
Service Level Assessment
Continuous Backlog refinement and feature dev

# Let's get started - accelerate next generation store innovation

## 1

*Envision The Future*

### Determine Entry Points

Co-create a priority set of use cases that deliver immediate value and foundation for transformation  business case. Entry points include customer and employee transformation and operational efficiencies.

## 2

*Iterate to MVP*

### Build and test MVP

Co-execute value-based MVPs to connect digital and physical channels, create better experiences for customers and associates, improve the effectiveness of store processes and workflows, and generate actionable insights from the data that's created in every store every day.
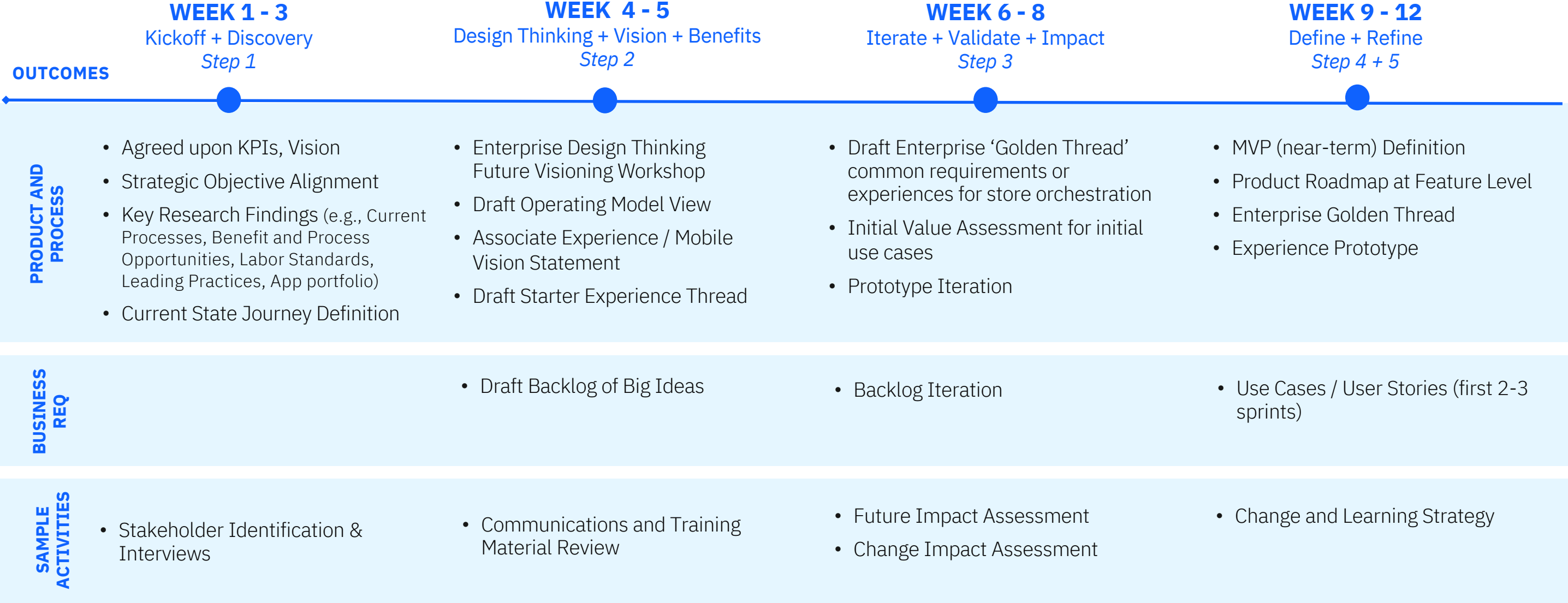
## 3

*Scale To Market*

### Build and Launch!

Co-operate to harden and scale out MVPs, build skilled teams focusing on digital innovation and change management initiatives.

# Over 12 weeks, together we clients we co-create the store orchestration vision and associate experience

| | **WEEK 1 - 3**<br>Kickoff + Discovery<br>*Step 1* | **WEEK 4 - 5**<br>Design Thinking + Vision + Benefits<br>*Step 2* | **WEEK 6 - 8**<br>Iterate + Validate + Impact<br>*Step 3* | **WEEK 9 - 12**<br>Define + Refine<br>*Step 4 + 5* |
|---|---|---|---|---|
| **OUTCOMES** | | | | |
| **PRODUCT AND PROCESS** | • Agreed upon KPIs, Vision<br>• Strategic Objective Alignment<br>• Key Research Findings (e.g., Current Processes, Benefit and Process Opportunities, Labor Standards, Leading Practices, App portfolio)<br>• Current State Journey Definition | • Enterprise Design Thinking Future Visioning Workshop<br>• Draft Operating Model View<br>• Associate Experience / Mobile Vision Statement<br>• Draft Starter Experience Thread | • Draft Enterprise 'Golden Thread' common requirements or experiences for store orchestration<br>• Initial Value Assessment for initial use cases<br>• Prototype Iteration | • MVP (near-term) Definition<br>• Product Roadmap at Feature Level<br>• Enterprise Golden Thread<br>• Experience Prototype |
| **BUSINESS REQ** | | • Draft Backlog of Big Ideas | • Backlog Iteration | • Use Cases / User Stories (first 2-3 sprints) |
| **SAMPLE ACTIVITIES** | • Stakeholder Identification & Interviews | • Communications and Training Material Review | • Future Impact Assessment<br>• Change Impact Assessment | • Change and Learning Strategy |

# Learn more about IBM's industry-leading thought leadership.

https://www.ibm.com/thought-leadership/institute-business-value/
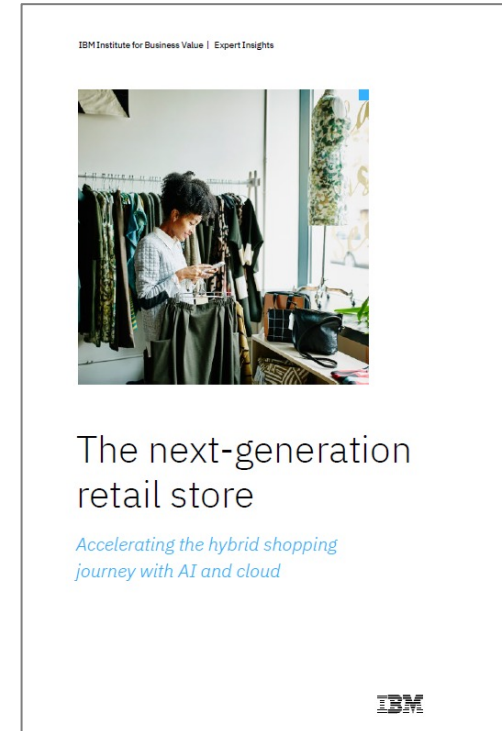
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Research Insights

**Consumers want it all:**

Hybrid shopping, sustainability, and purpose-driven brands

In association with
NRF
National Retail Federation

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The next-generation retail store

*Accelerating the hybrid shopping journey with AI and cloud*

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