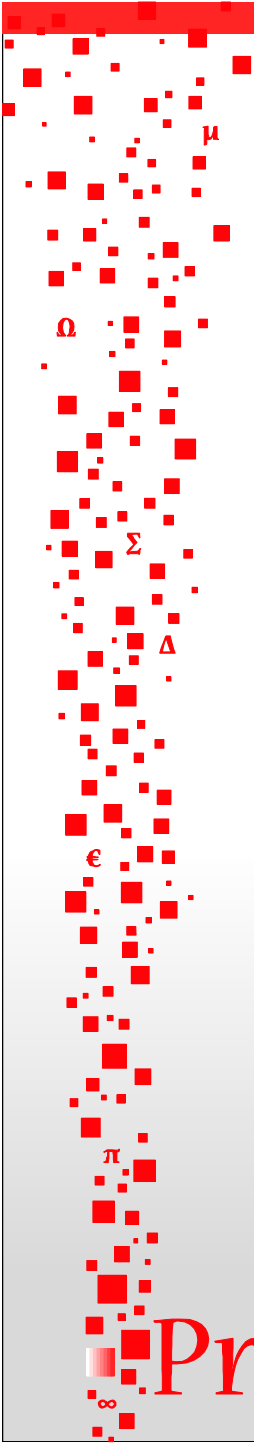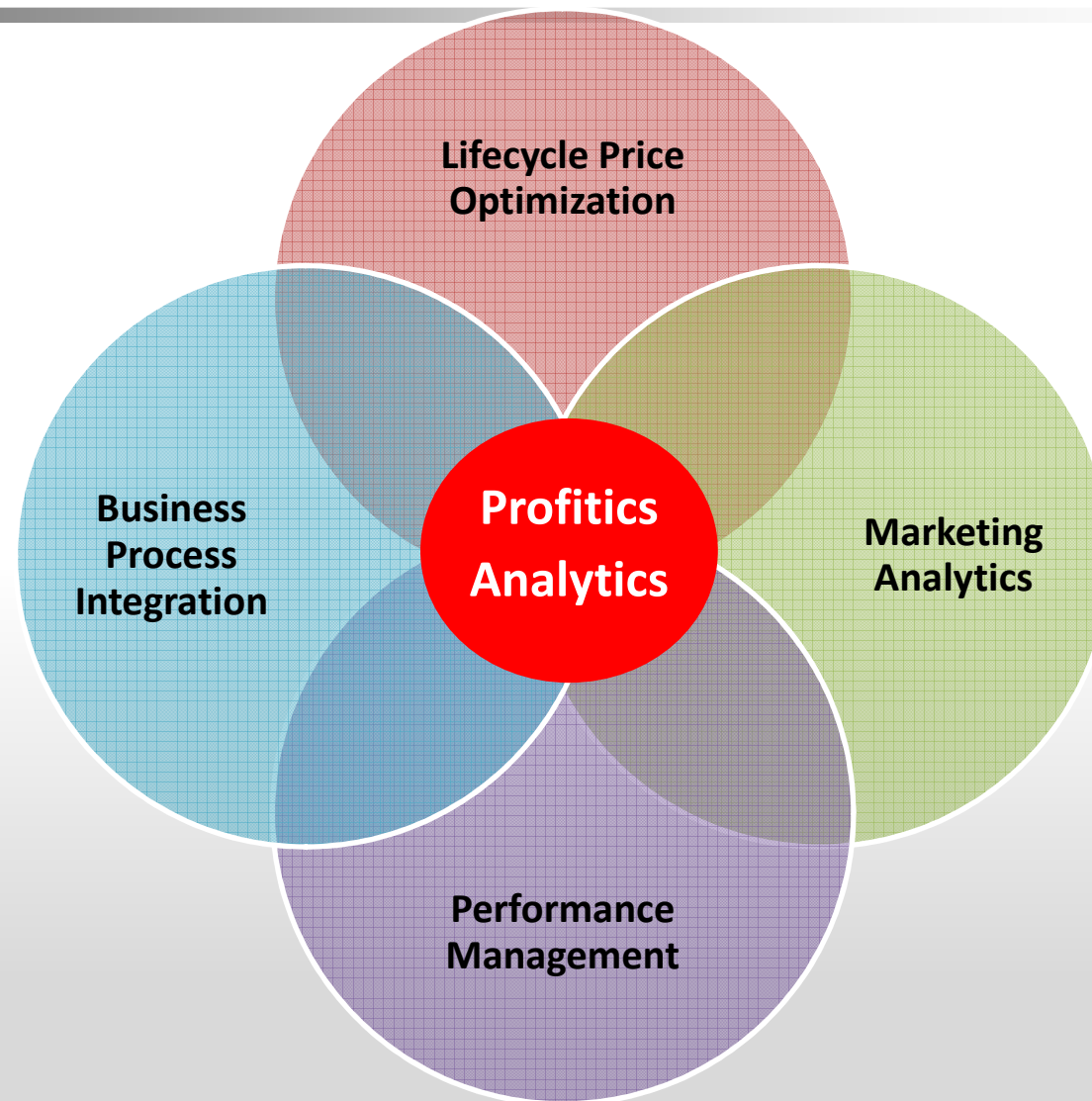# Profitics Retail Analytics

Profitics Retail Analytics Suite

A powerful retail-focused tool kit to optimize merchandise decision-making and streamline workflows

- Optimize pricing, promotions and markdowns utilizing advanced modeling and science
- Optimize marketing and planning with a 360° view of your customer:
    - Utilizing consumer insight to drive category and assortment planning and management
    - Integrate planning across e-commerce and store
- Empower your business to make better decisions using dynamic dashboards and scorecards
- Optimize your business processes by integrating workflows with key suppliers, merchants, and vendors

Retail Analytics Components

- Lifecycle Price Optimization
- Business Process Integration
- Profitics Analytics
- Marketing Analytics
- Performance Management

Why Profitics Retail Analytics?

- Retail Analytics - a cutting edge BI and analytics tool kit created specifically for retailers:
  - Create a true 360 degree view of your customers
  - Localized category planning driven by customer insights
  - Advanced modeling and analysis using Bayesian and stochastic modeling
  - Complete Pricing, Promotion and Markdown management & optimization
  - Integrate business processes between your brick and mortar and online businesses

- We are heavily experienced and a thought leader in:
  - Operations research, computer science, statistical data analysis, OLAP-BI-data warehousing
  - Business consulting, project management
  - Enterprise software development & deployment

- Profitics Development and Deployment teams provide:
  - World-class development, deployment and services
  - Rapid development and deployment - guaranteed 90 days from agreement
  - Cost-effective and scalable solutions

Lifecycle Price Optimization Features

- Pricing Optimization - Store/SKU modeling, item elasticity, halo effect, cannibalization, cross-category pull through, seasonality, "what if" simulation
- Pricing Management – rules based pricing, process automation, "what if" scenario analysis, vendor cost management, competitive price management, new item introduction,
  - last digit rules, competitive price index rules, cross zone rules
- Markdown Optimization – SKU-level modeling, store-level item elasticity, markdown scenario analysis, automated markdown workflow, campaign monitoring and optimization
  - Seasonal, short product lifecycle, event and holiday, category reset, cycle refresh, standard discount
- Promotion Management and Optimization
  - Incremental lift analysis, category planning and pull-thru planning, version-enabled environment, centralized marketing calendar, integrated workflow system, budget optimization, integration with other Retail production systems

Benefits of Lifecycle Price Optimization

Retail Customer Pricing Challenges	Profitics Retail Solutions
Pricing is based on cost plus methodology, past pricing strategy or competitor pricing	Utilize customer, market and demand data to formulate pricing strategies for the entire store inventory
Unable to anticipate how customers will react to pricing decisions	Utilize customer data and advanced modeling to understand price elasticity and customer demand preference
Marketing team neglects strategic analysis because they are bogged down in price maintenance and execution work	Automate and streamline pricing decisions using a powerful rules-based pricing engine
Lack of understanding of cannibalization, halo effects and cross category affects brought about by pricing decisions	Utilize customer data and advanced modeling to understand price elasticity and customer demand preference
Retailer merchants rely on intuition and experience for stock/pricing decisions	Provide a platform for merchants to understand how pricing changes will affect sales volume by item, line or category

Marketing Analytics

Integrate a powerful, organization-wide understanding of your customer base into planning

- Advanced category and assortment management
  - Category management strategy is fueled by localized demographics and customer insight
  - Optimize assortment, marketing lift and category pull-through
  - Enhance forecasting to drive improved merchandise planning – assortment, stock, promotions, breadth, depth, seasonality
- Enable an integrated 360° customer view
  - View customers on a transactional, account, interaction or attribute level
  - Integrated understanding of Customer, Product and Category life-cycle
- Identify and optimize customer segments
  - Segment your customers using transaction-level data and advanced modeling and segmentation
  - Understand each customer segment LTV
  - Conduct advanced Transaction Value Analysis
  - Enhance customer loyalty through optimized programs
- Perform market basket and life cycle profile analysis for demand
- Connect marketing initiatives to merchandising tactics

Marketing Analytics Features

- Market basket and life cycle profile analysis – market basket composition and optimization, purchasing behavior optimization, item/brand/category analysis, market basket trending

- Customer segmentation analysis – customer LTV analysis, geodemographic mapping, behavioral characteristic mapping, life cycle purchasing behavior mapping

- Affinity Analysis – follow-on purchase probability, co-purchase frequency

- Image Item Analysis – price sensitivity analysis, SKU-level elasticity, KVI identification, price image analysis

Benefits of Marketing Analytics

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Retail Customer Marketing Analytics Challenges	Profitics Retail Solutions
Promotions and merchandising campaigns utilize a one size fits all approach toward consumers	Combine transaction-level data and scientific modeling technique to segment types of customers by value
Lack of understanding of customer value: who to retain, who to avoid, who are opportunities	Optimize marketing efforts by identifying high profit or high potential customers
Lack the ability to link customer purchasing behavior to market baskets or product affinities	Combine customer behavior and market basket analysis to predict customer action and preference
Do not have insight into which market baskets are most profitable	Items and categories are evaluated to provide a set of market basket analytics to identify which categories, brand and items will grow your market baskets.
Cannot seem to grow market basket size over time	Identify market basket composition trends to drive basket growth.
Do not understand which items are purchased together and which pull-through sales	Develop insights using market basket affinities and co-purchasing behavior to predict follow on sales
Difficulty defining which items create your price image	Combine volumetric measures and price elasticities to understand which items drive price image

Performance Mgt Road Map

System Reports
- Static Reports from Independent Systems

Active Data Warehouse
- Data Managed and Warehoused
- Adhoc slice & dice reporting

Analysis and Modeling Systems
- Analytical Reporting – Unified Views
- Historic vs. Current vs. Planned

Event Management Systems
- Insightful proactive Alerting and Recommendations
- Advanced Planning and Monitoring

Profitics Analytics

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Performance Management

Make real-time, proactive business decisions to stay ahead of the market utilizing advanced analysis, data visualization and reporting

- Track key KPI's and receive real-time status updates
- Dynamic data visualization tools provide actionable snapshots
  - Slice & dice data , drill down to detailed information
- Create scorecards and maintain campaigns based on KPI's
- Employ powerful query and reporting tools to generate up-to-date views of data
- Utilize an advanced expression builder to create or alter formulas for different projects
- Integrate performance management with enterprise data sources to provide seamless planning and execution

Performance Management Features

- Generate and track insights by integrating operational data with retail metrics derived from scientific data analysis (elasticities, lifts, pull-thru, statistical summaries of historic KPIs etc)

- Operational Dashboards – strategy maps, process flows, speedometer, KPI status visualization, heat maps

- Strategic Scorecards – strategy maps, balanced scorecard, visual outcome modeling

- Real-time Reporting – business/ad-hoc, operational, transactional, production, analytical

Benefits of Performance Management

Retail Performance Management Challenges	Profitics Retail Solutions
Difficulty accurately tracking key KPI's on both enterprise and granular levels	Data is centralized and visualized in an intuitive and powerful platform that allows identification and prioritization of both problems and opportunities
Inability to understand why events are occurring until after the fact	link KPI performance to statistical analysis of events, trends or external factors
Massive amounts of data restrict the ability to report real time	Centralized data is efficiently sliced and diced to allow real time reporting and decision making
Difficulty spotting trends or patterns in data	Data is visualized into intuitive charts, graphs, and dashboards to provide an insightful and powerful view of your business
Difficulty measuring organizational execution of strategic initiatives	Scorecards enable strategic execution to be holistically evaluated

Business Process Integration

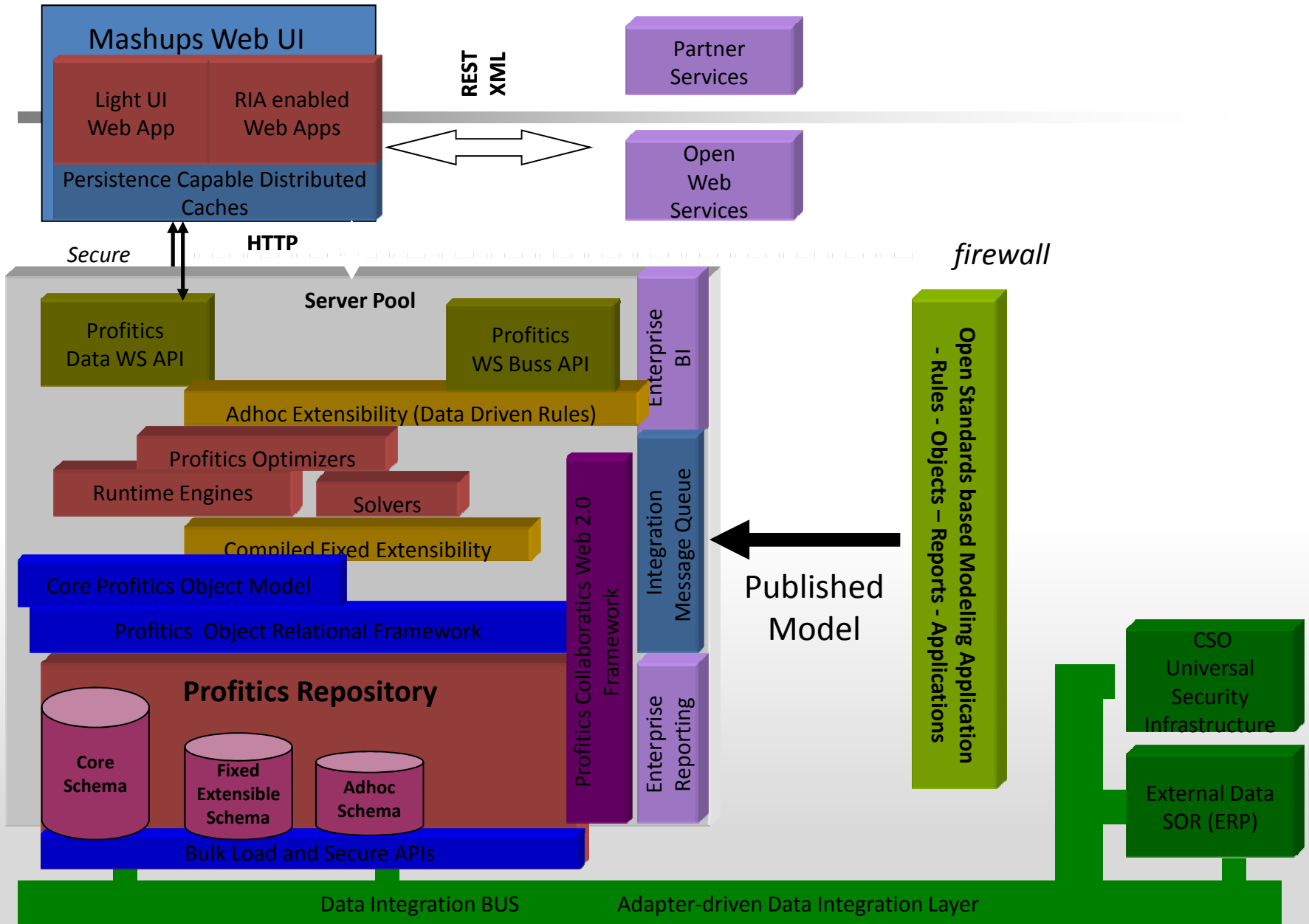Integrate business processes and enable collaborative workflow for key marketing and sales partners

- Integrate brick & mortar and online operations based on activities
  - Understand where customer lifecycles intersect between store and website
- Enable Collaborative Workflow
  - Plan jointly with your partners and suppliers (Trade funds, inventory, product introductions etc.,)
  - Integrate key data syndicators, suppliers, and partners
  - Optimize and automate processes to streamline workflow across partners
  - Enable inter-organization planning.

Benefits of Business Process Integration

Retail Customer Workflow Challenges	Profitics Retail Solutions
Key suppliers, vendors and merchants do not share information	Platform allows information to be shared safely and seamlessly to streamline processes. Plan jointly with your partners and suppliers (Trade funds etc.,)
Retail and online stores do not integrate customer information	Provide an understanding of where customer lifecycles intersect between store and website
Customers do not see the same promotions or prices online as in stores	Prices and inventory are tailored toward local demographics using localized assortment planning and customer insights
Store communications are not useful to the consumer	Promotions and offers are tailored to specific consumers

Architecture and Deployment

Architecture

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Mashups Web UI

| Light UI Web App | RIA enabled Web Apps |

Persistence Capable Distributed Caches

REST XML

Partner Services

Open Web Services

Secure **HTTP** **firewall**

Server Pool

Profitics Data WS API

Profitics WS Buss API

Enterprise BI

Adhoc Extensibility (Data Driven Rules)

Profitics Optimizers

Runtime Engines

Solvers

Compiled Fixed Extensibility

Profitics Collaboratics Web 2.0 Framework

Integration Message Queue

Core Profitics Object Model

Profitics Object Relational Framework

Enterprise Reporting

Profitics Repository

Core Schema

Fixed Extensible Schema

Adhoc Schema

Published Model

Open Standards based Modeling Application
- Rules - Objects – Reports - Applications

CSO Universal Security Infrastructure

External Data SOR (ERP)

Bulk Load and Secure APIs

Data Integration BUS   Adapter-driven Data Integration Layer

Key Architecture Features

- Data Driven Extensibility
- Flexible Modeling
- Web 2.0 for Enterprise Enablement
- Distributed Data Management Enabled
- Demand Chain Collaboration Enabled
- Optimized Data Integration infrastructure
- RIA and distributed cache enabled
- Enterprise quality scalability, reliability and manageability
- Business User enabled self service
- Open standards based Administration and Extensibility infrastructure
- Web services enabled solver and business APIs

Iterative Dev-Deployment Process

Feedback → Prototype
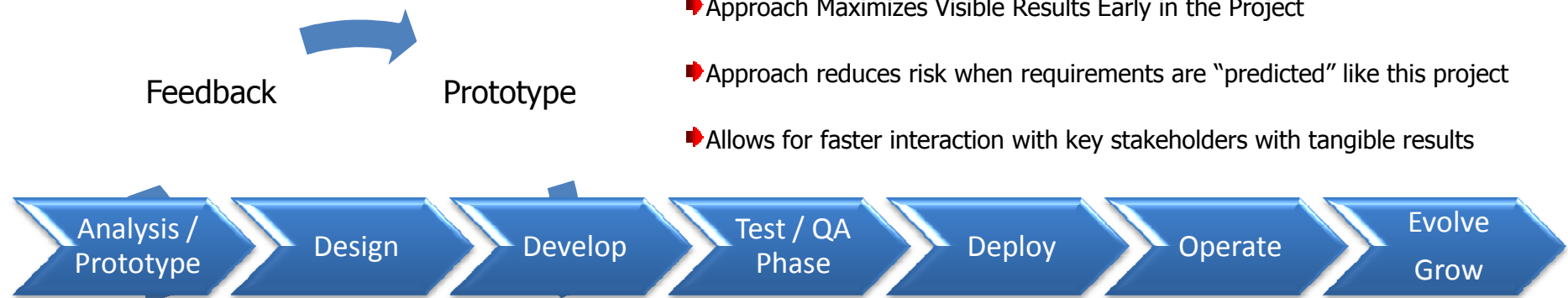
- Approach Maximizes Visible Results Early in the Project
- Approach reduces risk when requirements are "predicted" like this project
- Allows for faster interaction with key stakeholders with tangible results

Analysis / Prototype → Design → Develop → Test / QA Phase → Deploy → Operate → Evolve Grow

Prototype ← Feedback

Explore. Develop a shared and detailed understanding of the suspected opportunity, expected challenges in realizing the potential opportunity, and key information needed to test these assumptions.

Discover. Agree to specific action plans to rapidly test and refine this understanding and the assumptions behind it.

Grow. Execute the above plan to validate key assumptions, discover new unknowns, and further refine the understanding of the opportunity through rapid application development.

Evolve. Continuously identify more value creation opportunities and deliver additional value by evolving the existing investments.

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Analytics Deployment Plan

| Conceive	Design Configure	Configure Implement	Support Value Creation
• Collect , clean, consolidate and Analyze Data • Identify Opportunities • Create Sample Analytics Model • Define and Develop Value Prop	• Construct final Model • Design Architecture • Design data integration • Analyze solution and tune models	• Design HW • Deploy and validate Solution • Testing and measuring • Training and deployment	• Refine Models • Monitor Performance • Identify value generation opportunities with existing deployed models • Provide decision support frame work
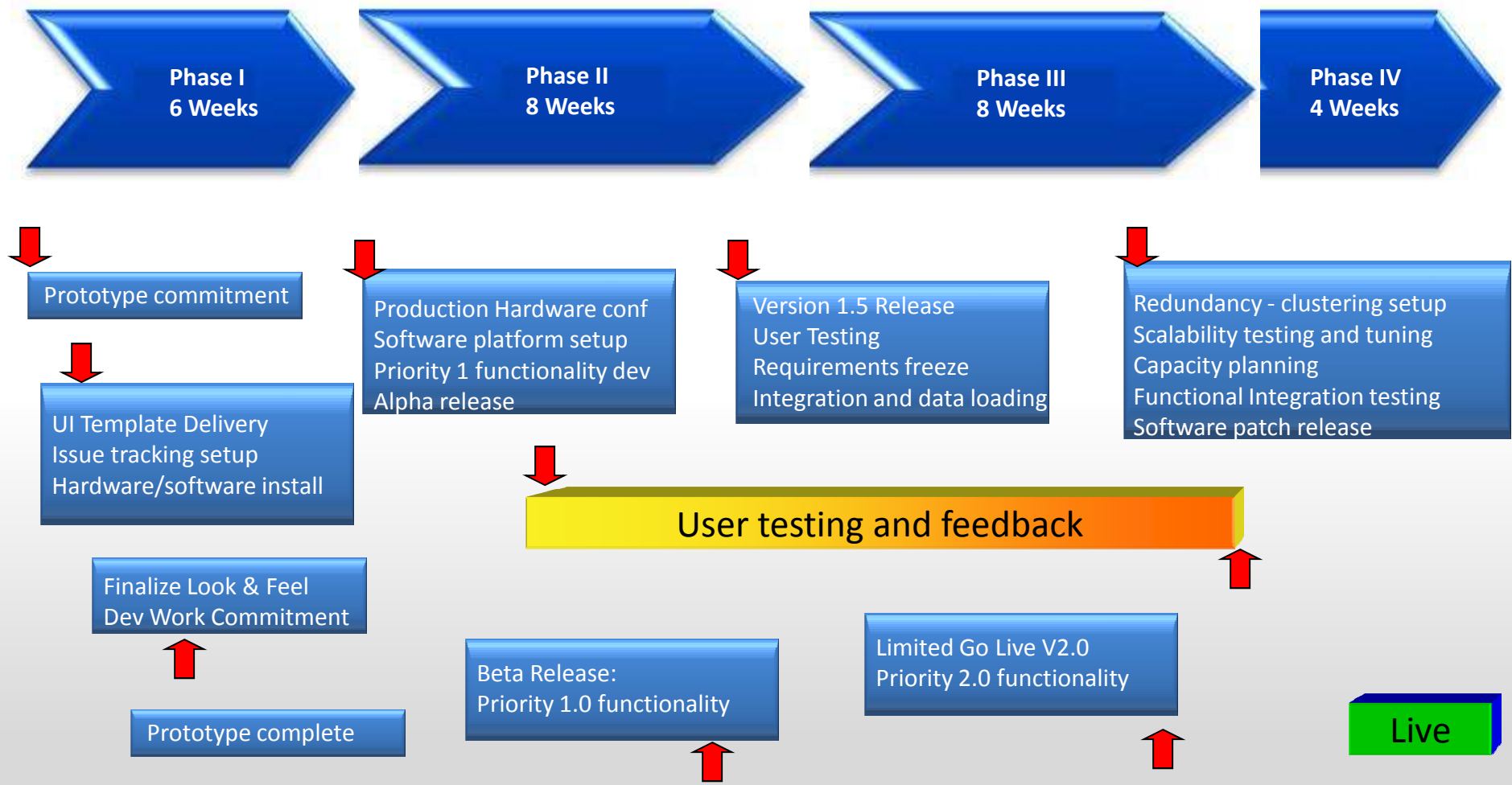
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