



Software product roadmap development

Case study

BA established a software development strategy and multiple product roadmaps for a global solutions provider

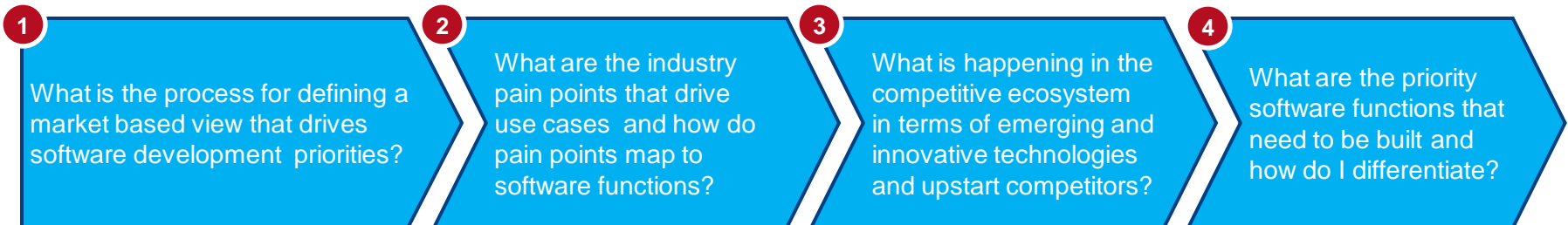
Client Background

- The client is a leading global solutions provider with deep capabilities in managed services, BPO, data center management, cloud services and management consulting among many other offerings
- The client wanted to gain a market based view of potential solutions to inform development for new categories of software. The company has aggressive revenue goals and wants to minimize the risk in development by adopting a market management approach. This was also the company's first major foray into software development and required a disciplined approach to draw distinctions between services capabilities and software functionality

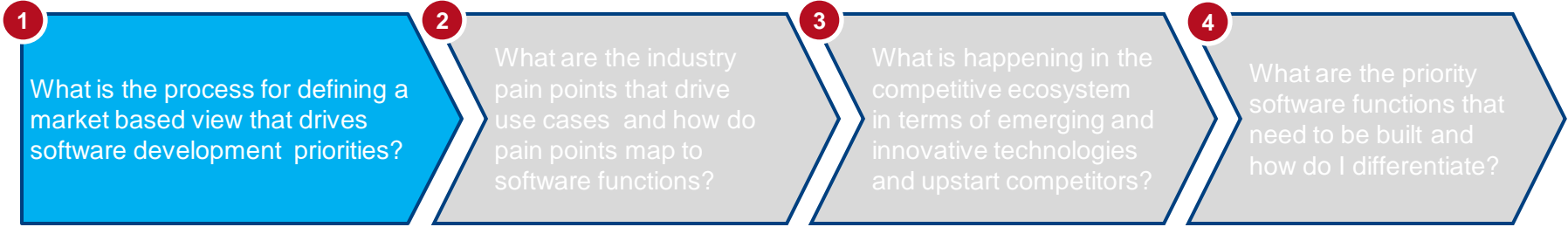
Key Highlights

- BA conducted a multi-phased approach to evaluate create a market based stack that included an market based view based on customer pain points, an ecosystem view to understand emerging technologies and the company's internal view
- As a result of BA's work, the client was able to define its product strategy for multiple products with insights on "hygiene" functionality and "differentiators" that drive competitive value.
- The client also was able to understand how adopting recommended actions would improve the market positioning of the portfolio

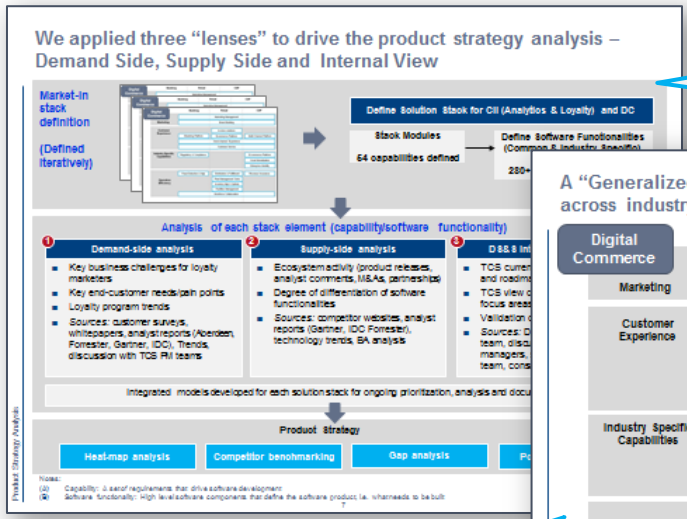
Key Business Questions



BA developed a process for product strategy development based on a “market-in” view of the product stack



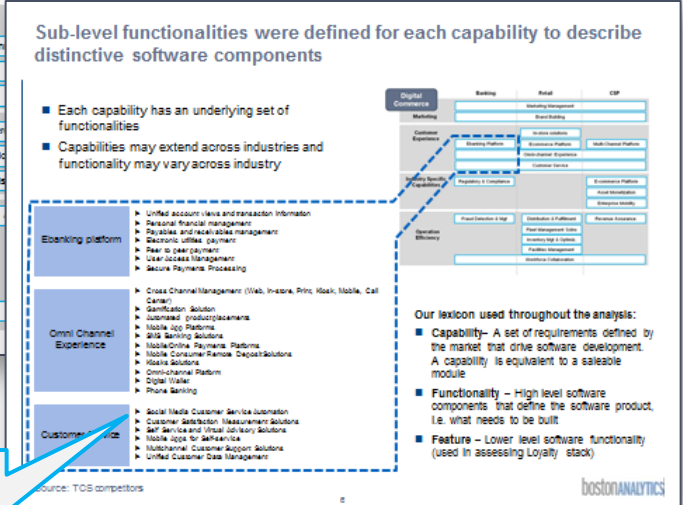
BA established a process to evaluate over 300 separate software functions across the portfolio



A “Generalized Solution Stack” for each solution was developed across industry at module level based on supply / demand

| | Banking | Retail | CSP |
|--------------------------------|-------------------------|----------------------------|---------------|
| Digital Commerce | | | |
| Marketing | | Marketing Management | |
| | | Brand Building | |
| Customer Experience | Banking Platform | In-store solutions | Multi-Channel |
| | | Ecommerce Platform | |
| | | Omni-channel Experience | |
| | | Customer Service | |
| Industry Specific Capabilities | Regulatory & Compliance | | E-commerce |
| | | | Asset Mgmt |
| | | | Enterprise |
| Operation Efficiency | Fraud Detection & Mgt. | Distribution & Fulfillment | Revenue |
| | | Fleet Management, Spins | |
| | | Inventory Mgt & Optimiz. | |
| | | Facilities Management | |
| | | Workforce Collaboration | |

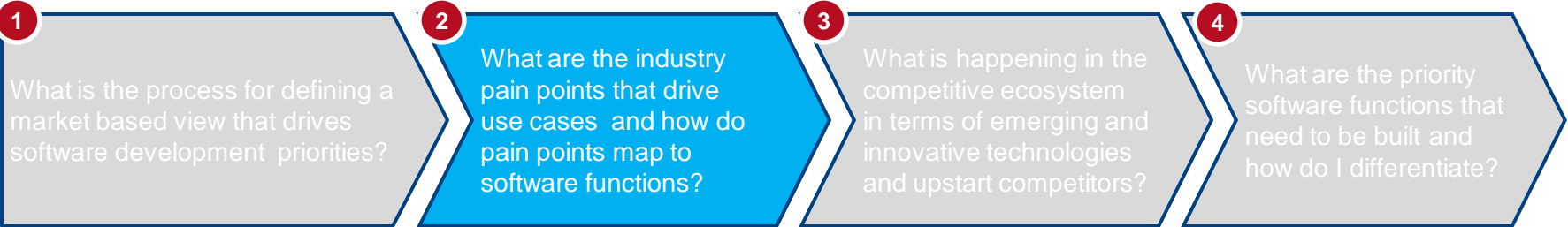
Source: TCS competitors



A market based stack emerged through extensive market and competitive research validated by subject matter experts

High level stack requirements were further defined at a functional level as the basis for analysis

Customer pain points were identified across industry and mapped to functions that support product use cases



Customer pain points across industry were identified and assigned a criticality score based on market research assessing impact

| Score | Criticality of pain points score (1-5) | Description |
|-------|--|-------------|
| 1 | Incidental | |
| 2 | Relevant | |
| 3 | Important | |
| 4 | Critical | |
| 5 | Extremely critical | |

| Theme | Industry | Pain Points | Description |
|--|----------|---|---|
| Customer Identity across Product Silos | Bank | Fragmented customer information across multiple channels | Creating a single customer view based on demographic preferences, professional needs and personal interests |
| | Bank | Inconsistent customer experience across channels | Seamless omni channel experience with users having their prior history, preferences, and shared data |
| | Bank | Missing customer life events to discover new products and special opportunities | Cross sell and up sell models need to be based on customer past behavior, which can be enhanced through predicted customer needs/recommendations that cater to their needs |
| | Bank | Targeting and retaining high value customers | Using segmentation models, Customer Lifetime Value and based on overall revenue through acquisition, cross sell and loss through churn |
| | Bank | Inability to analyze and measure customer sentiments at different channels | Companies are unable to measure sentiment at different channels through social media and through their website |
| | Bank | Identify and mitigate customer issues through interaction centers, social media, and providing immediate need | Understanding customer issues and providing immediate need |
| | Bank | Anticipating customer selection and proactively manage respective customer | Companies are unable to anticipate voluntary customer can be predicted through customer behavior and usage. Customers should be approached with loyalty programs and effectiveness of these programs needs to be measured |
| | Bank | Retaining customers through appropriate loyalty | |

Pain points were assessed by their criticality across industry

Mapping pain points to capabilities provides insight on the importance of specific capabilities

| Industry | Capabilities | Software Functionality | Must Have / Good to Have | Score |
|----------|---------------------------------------|--|--------------------------|-------|
| 1 Bank | 360° View of the Customer | Mobile Analytics - Mobile Websites and App Data Analysis | Good to Have | 1 |
| 2 Bank | 360° View of the Customer | Sentiment Analysis Solutions | | |
| 3 Bank | 360° View of the Customer | Voice of Customer Analytics-Recent View | | |
| 4 Bank | 360° View of the Customer | ROI Analytics for Customer Profitability | | |
| 5 Bank | 360° View of the Customer | Customer Lifetime Analysis | | |
| 6 Bank | 360° View of the Customer | Multi Channel Customer Experience Analytics | | |
| 7 Bank | 360° View of the Customer | Customer Lifetime Value Analytics-Future View | | |
| 8 Bank | 360° View of the Customer | Multi Channel Customer Experience Analytics | | |
| 9 Bank | Customer Engagement | Cross-channel Optimization for Customer Interactions | | |
| 10 Bank | Personalized Offering | Cross Channel personalization | | |
| 11 Bank | 360° View of the Customer | Customer Lifetime Analysis | | |
| 12 Bank | Customer Engagement | Voice of Customer Analytics for Product Reception | | |
| 13 Bank | Customer Engagement | Event based Recommendations | | |
| 14 Bank | 360° View of the Customer | Customer Lifetime Value Analytics-Future View | | |
| 15 Bank | Targeted Marketing | Dynamic Segmentation & Clustering | | |
| 16 Bank | Targeted Marketing | RFI Analytics (Recency, Frequency, Value) | | |
| 17 Bank | Targeted Marketing | Churn Prediction | | |
| 18 Bank | 360° View of the Customer | ROI Analytics for Customer Profitability | | |
| 19 Bank | Personalized Offering | Customer Lifetime Analysis for personalized recommendation | | |
| 20 Bank | Personalized Offering | Dynamic Segmentation & Clustering | | |
| 21 Bank | Personalized Offering | Next Best Offer | | |
| 22 Bank | Personalized Offering | Cross Channel personalization | | |
| 23 Bank | Customer Engagement | Event based Recommendations | | |
| 24 Bank | Brand Building & Customer Acquisition | Sentiment Analytics for Brand Perceptions | | |
| 25 Bank | Customer Support & Service | Voice of Customer Analytics | | |
| 26 Bank | Customer Support & Service | Customer Analytics for Churn Prediction | | |
| 27 Bank | Customer Support & Service | RFI Analytics | | |

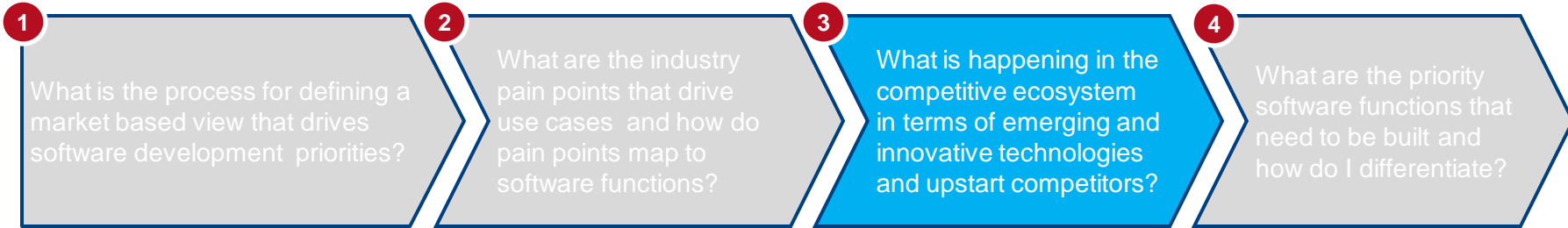
Pain points were then mapped to the various functions that would drive solutions to address the pain point

Industry heat maps were created to establish the priority software functions driven by pain points

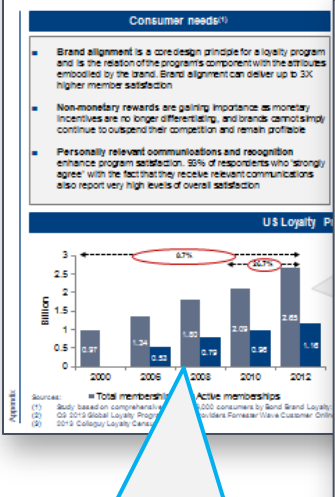
Heat map analysis indicated priority areas for software development

| # | Capabilities | Demand-side Addressability | Supply-side Volume of Capabilities | Total Score | Hygiene Score | Differentiator Score | Heat map Score | Summary | |
|----|-------------------------------------|----------------------------|------------------------------------|-------------|---------------|----------------------|----------------|------------------------|-------------------|
| | | | | | | | | Hygiene/Differentiator | Opportunity (Gap) |
| 1 | Analytic Platform | 2.5 | 5.0 | 4.0 | 2.0 | 2.0 | Very High | High | Low |
| 2 | Brand Building/Customer Acquisition | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Medium | Low | High |
| 3 | Marketing/Targeted | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | Medium | Low | High |
| 4 | Targeted Marketing | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Medium | Low | High |
| 5 | 360° View of the Customer | 4.0 | 2.0 | 4.0 | 2.0 | 2.0 | Very High | High | Low |
| 6 | Customer Support & Service | 3.0 | 1.0 | 3.0 | 1.0 | 1.0 | High | Low | High |
| 7 | Customer Engagement | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | Medium | Low | High |
| 8 | Bank Specific | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | Medium | Low | High |
| 9 | Compliance and Risk Management | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | High | Low | High |
| 10 | Digital Payments | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Low | High | Low |
| 11 | Personalized Offering | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Low | High | Low |
| 12 | Cross-channel Optimization | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Medium | Low | High |
| 13 | Optimization of Delivery Channels | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | Medium | Low | High |
| 14 | Fraud Prevention | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | High | Low | High |

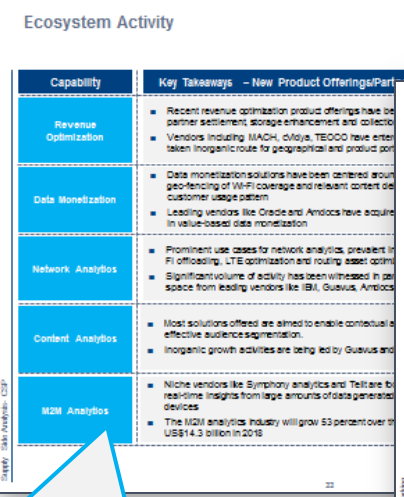
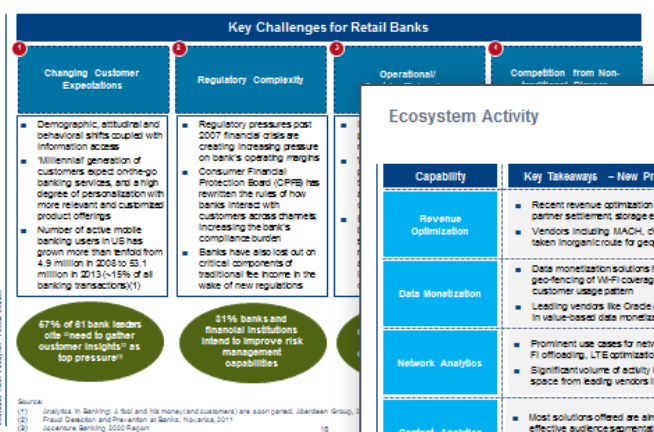
An ecosystem view of competitors provided insight on emerging technologies, competitors and areas of convergence/maturity



Emerging customer needs indicate loyalty vendors need to go beyond superior platforms and provide engagement-focused solutions



Changing customer expectations, regulatory complexity, and competition from non-traditional players are the key challenges faced by retail banks



Competitor benchmarking was completed against a wide variety of new and entrenched competitors

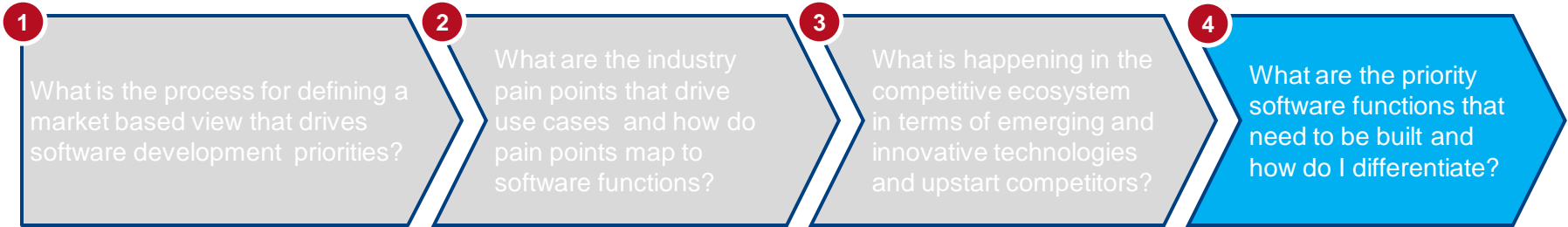
Benchmarking of Analytics (Retail Banking)

| Analytics Platform | SAS | IBM | Oracle | FIS |
|---------------------------------------|----------|----------|----------|----------|
| Analytics Platform | ████████ | ████████ | ████████ | ████████ |
| Brand Building & Customer Acquisition | ████████ | ████████ | ████████ | ████████ |
| Targeted Marketing | ████████ | ████████ | ████████ | ████████ |
| Marketing Effectiveness | ████████ | ████████ | ████████ | ████████ |
| 360° View of the Customer | ████████ | ████████ | ████████ | ████████ |
| Personalized Offering | ████████ | ████████ | ████████ | ████████ |
| Customer Engagement | ████████ | ████████ | ████████ | ████████ |
| Customer Support & Service | ████████ | ████████ | ████████ | ████████ |
| Loyalty Analytics | ████████ | ████████ | ████████ | ████████ |
| Compliance and Risk Management | ████████ | ████████ | ████████ | ████████ |
| Fraud Prevention | ████████ | ████████ | ████████ | ████████ |

Industry and competitive trends were identified that exposed opportunity areas and ecosystem gaps

Key themes that provide a higher level of organization was developed to define common functions across industry

Last, recommendations to identify differentiating functions and gaps in “hygiene” functions were prioritized to create product roadmaps



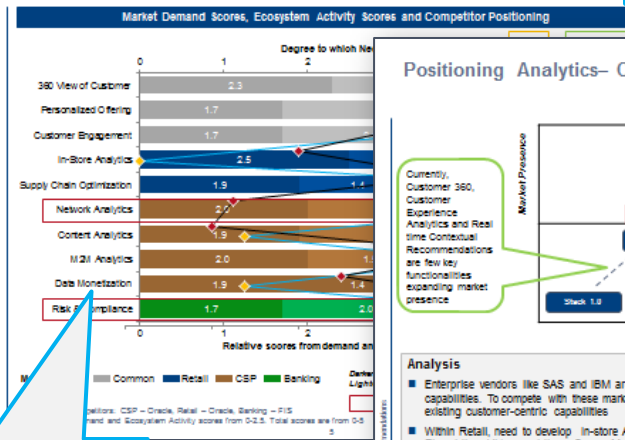
Market in-view of Product Stack with High Priority Modules Identified

| Market Drivers | Vertical - Specific Modules | Common Modules | Platform |
|----------------|---|---|---|
| | Banking Compliance and Risk Management Fraud Prevention Optimization of Delivery Channels Digital Payments | Retail In-Store Analytics Supply Chain Optimization Revenue Optimization Operation Analytics | 360° View of the Customer Personalized Offering Customer Engagement Targeted Marketing Marketing Efficiency Brand Building & Customer A Customer Support & Se Workforce Optimization Prescriptive Analytics Data Exploitation Predictive Analytics Data Induction Platform |

Trend Analysis: Driving Themes behind the stack and our recommendations

| Market View Modules | Software Functionality | Emerging Themes | Omni Channel Experience | Personalization | Operational Excellence |
|---------------------------|---|-----------------|-------------------------|-----------------|------------------------|
| 360° View of the Customer | Voice of Customer Analysis | | | | |
| | Multi Channel Customer Experience Analy | | | | |
| | Customer Lifetime Value Analysis | | | | |
| | Customer Fidelity Analysis | | | | |
| Customer Engagement | Purchase Pattern and Cart Conversion/Rate (Product Affinity/Rate) | | | | |
| | Customer 360: Household, preferences, Int | | | | |
| | Churn Prediction and Prevention | | | | |
| | Omni Channel Optimization for Customer | | | | |
| Personalized Offering | Voice of Customer Analysis for Product Re | | | | |
| | Customer Life Event based Recommendations | | | | |
| | Advisor Relationship Management Analysis | | | | |
| | Customer Lifetime Analysis for Personal Recommendation | | | | |

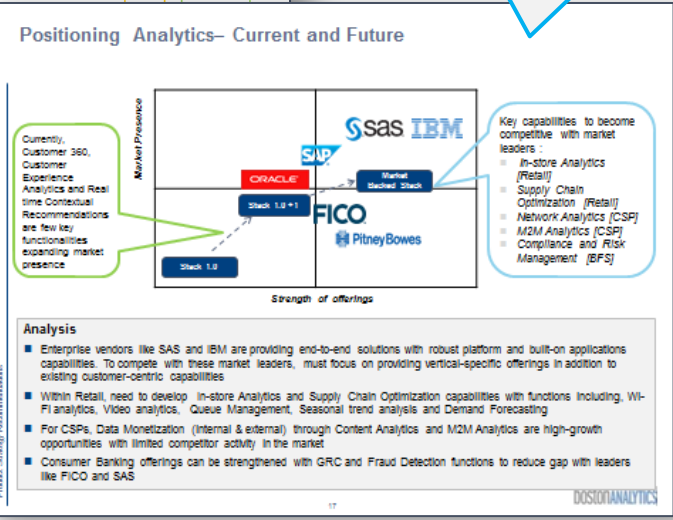
360° View of the Customer and Personalized Offering are the highest scoring horizontal modules



Priority areas of the product stack were identified and prioritized for development

Priorities were also defined at an industry level with comparisons to leading competitors

An overall product portfolio view was developed to determine likely competitive positioning when recommendations are fully implemented



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