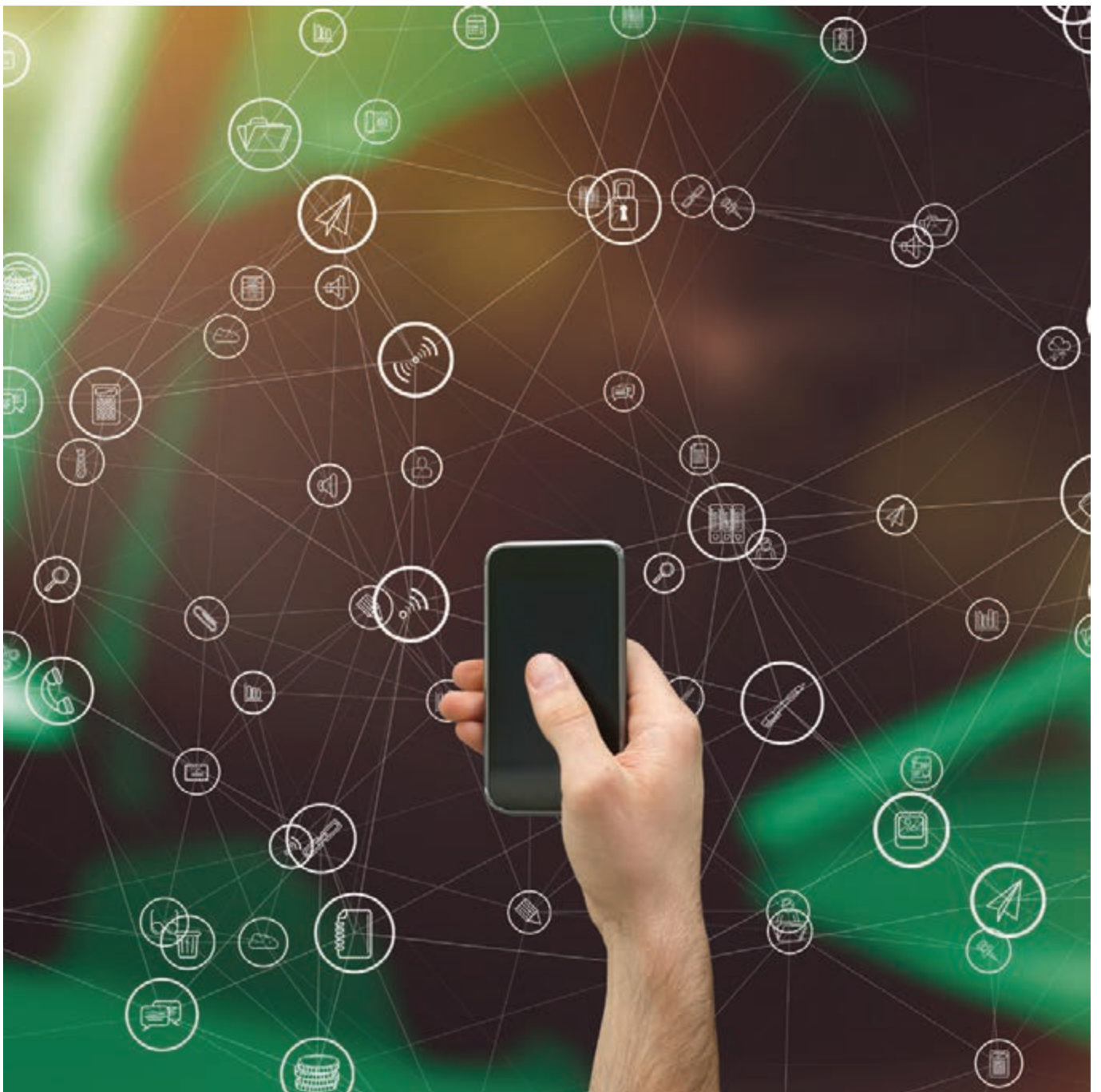


# Omni-channel customer intelligence, journeys & engagement for retailers



# Moving beyond retail customer insights towards journey analytics and hyper-personalization

Amazon, Walmart, Kroger, Carrefour, Aldi, Target or not, retailers know that both current and future retail business survival is intricately tied to understanding and responding to shopper or customer evolution in agile and innovative ways. New age customer engagement is now entering the realm of precision Omni-channel marketing. Retailers need to stay updated with these solutions to ensure effective personalized customer engagement.

Such a strategy needs a clear and differentiated roadmap that is supported by customer intelligence and ways that customer behavior is dissected into understanding customer journeys across channels. It is a known fact that the best and most consistent retail performers embrace customer intelligence and journeys for enabling deeper engagement and personalization that in turn leads to greater customer conversion and sales. Moving beyond retail customer insights towards journey analytics and hyper-personalization is the way forward for consistent retail performance.

Today's digitally connected shoppers are accustomed to a highly personalized environment where everything is tailored to their needs – for example, customized promotions, social media content, individualized shopping site recommendations, and connected home experiences through AI shopping assistants, machine learning, and chatbots. Thus, customers prefer personalized interactions with brands over impersonal mass messages that are often irrelevant. Retailers are now recognizing the need to treat customers as individuals and cater to their unique interests, buying journeys, and personas to build brand loyalty and achieve customer satisfaction and delight. This is leading to creation of consumer intelligence, journey and engagement solutions that retailers need to adopt to understand and optimize consumer behavior.

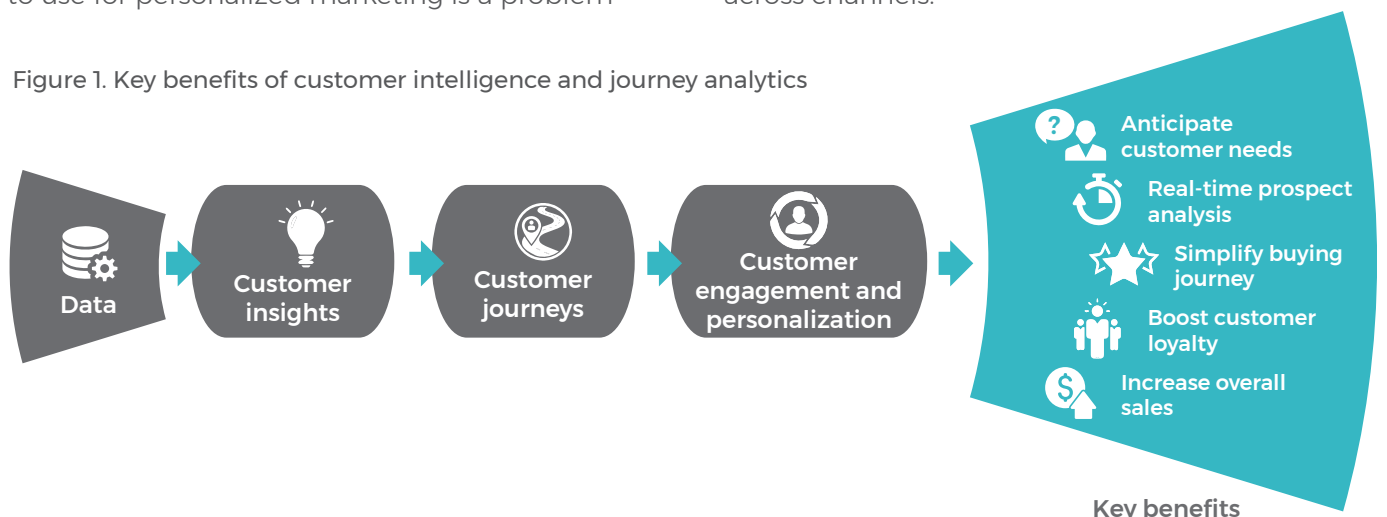


**Effective customer intelligence** involves: understanding the customer, personalizing engagement, empowering self-service, and driving consistency across channels.

Understanding customer journey to optimize customer experience and deliver consistent experience across all channels is crucial for retailers to build a strong customer connect. Around 56% of customer interactions occur during a multi-event and multi-channel journey.<sup>1</sup> Not knowing which customers to engage with, when to approach them and which channel to use for personalized marketing is a problem

faced by a majority of retailers. In order to build effective customer engagement programs, retailers need to capture journey data across channels. Moreover, retail marketing teams need to increasingly leverage the right set of capabilities that help them visualize the varied customer journeys, personalize customer messaging and track different customer activities across channels.<sup>2</sup>

Figure 1. Key benefits of customer intelligence and journey analytics



<sup>1</sup> [https://www.slideshare.net/McK\\_CMSOForum/customer-journey-analytics-and-big-data/6-McKinsey\\_Company\\_5What\\_is\\_a](https://www.slideshare.net/McK_CMSOForum/customer-journey-analytics-and-big-data/6-McKinsey_Company_5What_is_a) (McKinsey report)

<sup>2</sup> <https://www.allsight.com/customer-journey-analytics>

## Retail customer intelligence and journey analytics market overview:

The global customer journey analytics market is expected to grow at a CAGR of 20.8% from USD 4.76 bn in 2017 to USD 12.22 bn by 2022.<sup>3</sup> Rapid adoption of emerging technologies and a fast-growing customer journey analytics vendor landscape is expected to drive the growth of this market in the U.S. The customer journey analytics market is segmented on the basis of type of application such as customer segmentation, targeting, customer behavior analysis, and campaign management.

Retailers consider personalization and effective customer engagement as crucial to drive brand loyalty, increase sales, and reduce customer churn rate. The customer intelligence and journey analytics vendors are increasingly adding new capabilities to provide state-of-the-art solutions to their clients. The U.S. market is highly competitive due to the presence of several large vendors offering real-time customer engagement solutions based on unified customer data. Moreover, competition among the vendors will intensify due to the increase in product extensions and various other factors.<sup>4</sup>



**Most effective customer journey management drives customer brand loyalty, reduces churn rate, optimizes buying journey and personalized engagement, and increases customer lifetime value.**

<sup>3</sup> <https://www.businesswire.com/news/home/20171019005654/en/Customer-Journey-Analytics-Market---Global-Forecast><sup>4</sup> <https://www.allsight.com/customer-journey-analytics>

<sup>4</sup> <http://www.kmov.com/story/36786650/customer-journey-analytics-market-2017-global-trends-sales-supply-demand-and-analysis-by-forecast-to-2023>



### **Behavioral insights to deliver a distinct customer experience:**

Due to disruptive retail changes and customer evolution, there is an overarching need today to use and adopt customer intelligence, journey and engagement solutions with capabilities for discerning the behavioral paths of each individual customer, determining the next best interaction, and delivering a consistent, personalized brand experience through every touch point.<sup>5</sup>

### **Growing dependence of marketers on true power of predictive analytics:**

Marketers use customer insights to design real-time customer interactions and provide highly personalized and relevant offers to their customers.

### **Use of customer-centric data from location to contextual analysis:**

Use of unstructured data to derive insights through organized information and apply machine learning for interactive journey analytics.

### **Using micro-segmentation to enable better decision making:**

Effective use of micro-segmentation to identify most common paths across different customer groups. In addition, identifying the success & failures across different customer journey paths and minimize the customer point of traction through optimal journey paths. This will help in creating dynamic clusters to improve campaign effectiveness and overall decision making process for retailers.

### **Growth of Artificial Intelligence (AI) enabled solutions to transform customer journey:**

The growth in size and diversity of data sources has fueled the need for algorithmic, buying patterns and real-time approaches to address business issues. In this case, artificial intelligence and its various forms (predictive analytics & machine learning) can act as a catalyst to better understanding customers, design shopping experience and improve product offerings around unique customer needs.

### **Omni-channel customer intelligence and journey analytics to enable better customer experience management:**

Technology has introduced several touch points for interaction with the retail business. These online and offline opportunities have also introduced new challenges for businesses in the area of customer service. Businesses are realizing the need to provide a seamless, contextual experience across all channels. Through this, they can maintain continuity and consistency, and improve customer experience.

### **Deep learning based rich-data-driven attribution:**

Through advanced algorithmic technologies like machine learning, AI inventorying and integration of customer data becomes easy for the retailers. Moreover, robotics-powered analytics, bots and personal assistant complementing solutions will assist retailers to focus on how they can find answers to customer intelligence and journey questions that will help analyze the buying patterns from unified customer data.

<sup>5</sup> <http://www.teradata.co.uk/Press-Releases/2016/Teradata%E2%80%99s-Customer-Journey-Analytic-Solution>





## Customer intelligence, journey and engagement vendor landscape in the U.S.

The EIQ Vendor Assessment helps retailers to uncover the real benefits of customer journey analytics and assess the market vendor landscape to select the best-fit solution for their business needs.

To assess the customer intelligence, journey & engagement vendor solutions landscape, EIQ identified over 20 criteria, clubbed into six key capability sets, to evaluate vendors based on research and expert interviews. Each vendor was assessed on their capabilities and features as given below:

- **Customer data aggregation, analysis and segmentation:** Vendor's capability of providing collecting and synthesizing data from multiple sources and running various algorithms to segment the data in a structured manner.
- **Vendor's capability to capture the end customers' journey across multiple channels, platforms and devices:** Vendor's ability were checked to provide complete journey visualization and enable the business customer to customize various online and offline touch points as required.
- **Omni-channel marketing campaign activation:** The vendors were benchmarked on their capability to provide their business customers with a holistic marketing analytics and management solution.
- **Omni-channel customer engagement, personalization and recommendations:** Vendors were compared on the targeted customization capabilities offered by their solutions such as engagement, integrated customer journeys and contextual personalization.
- **Effectiveness measurement:** Vendor solutions were compared for their effectiveness in measuring outcomes as well as analytics capabilities.
- **Infrastructure, data integration and managed services capabilities:** Vendors were assessed for their overall infrastructure performance and integration abilities that included CRM/loyalty integration, channel integration, cloud integration, data-services integration, and scalability.

Features *	IBM	Microsoft	ORACLE	Salesforce	SAP	SAS	TATA CONSULTANCY SERVICES DS&S
Customer data aggregation, analysis, & segmentation	2.0	2.5	2.4	2.2	2.2	2.5	2.6
Customer journey	2.1	2.2	1.7	1.9	1.9	2.2	2.6
Omni-channel marketing campaign activation	2.4	1.9	2.1	2.2	2.6	2.5	2.2
Omni-channel customer engagement, personalization and recommendations	2.5	2.3	2.1	2.8	2.2	2.2	2.1
Effectiveness measurement	2.5	1.4	1.5	2.6	2.4	2.4	1.5
Infrastructure, data integration, & managed services capabilities	2.8	2.8	2.8	2.6	2.8	2.6	2.6
<b>Overall rating</b>	<b>2.4</b>	<b>2.2</b>	<b>2.1</b>	<b>2.4</b>	<b>2.3</b>	<b>2.4</b>	<b>2.3</b>

**Best-in-class (>=2.4)**
 **Leader (2.2-2.3)**
 **Contender (<=2.1)**

**Best-in-class:** IBM, SAS and Salesforce are leading the pack as complete customer intelligence journey and engagement solution providers mainly supported by their strong analytics, Omni-channel and infrastructural capabilities. SAS and Salesforce’s consistency in offering capabilities across features, allows them to gain a top spot. IBM’s top notch data integration and campaign activation services helps businesses to design and manage entire marketing campaigns based on the customer’s journey.

**Leaders:** Microsoft, TCS and SAP stand out for their segment specific capabilities. TCS allows data integration from multiple digital and physical sources in real-time, supported by IoT capabilities. TCS has a strong retail focus Customer Intelligence & Insights (CI&I) solution. It is worth noting that TCS CI&I is relatively a recent introduction in the market compared to other solutions. SAP enables behavior-based real-time personalization, remarketing, and strong Omni-channel engagement. Microsoft’s predictive scoring and matching function across various channels.

**Contenders:** Failure to develop out-of-box features and Omni-channel marketing capabilities has led to Oracle lagging behind other vendors.

\* All companies outlined in alphabetical order



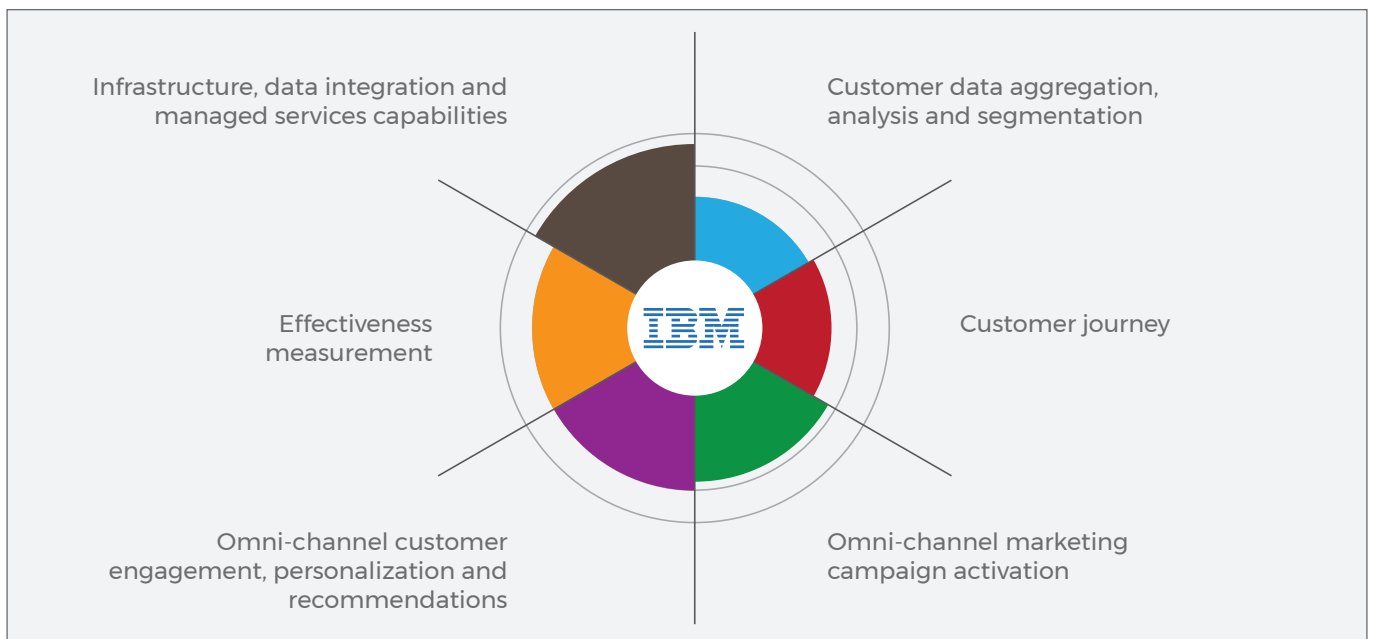
## Vendor profiles

### 1. IBM

IBM majorly supports marketing analytics with its Customer Experience Analytics suite, which integrates its digital analytical products with behavior analytics and customer journey analytics.

IBM's PCI solution has the ability to visualize and explore customer data at different levels. It is designed to deliver the most appropriate action at the right time through multiple channels to increase customer experience, loyalty, and revenue. It also supports retailers in having consistent, continuous, and applicable customer engagement across all digital channels.<sup>6</sup>

The major advantage for IBM Watson customer engagement is its well-ready machine learning tools.



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

<sup>6</sup> <https://www.ibm.com/customer-engagement>

## II. Specialization areas

- IBM's Predictive Customer Intelligence creates and personalizes relevant experience for individual customers with a focus on driving revenue. It also utilizes data analytical tools to connect with their audience for extracting meaningful and relevant insights.
- In real-time, contextual personalization delivers aligned journey and modified content across every digital channel and embeds individual targeted product and recommendations across these channels.<sup>7</sup>

## III. Strengths<sup>8</sup>

### ■ Analytical support

- Data analytics and engine optimization will enable customer segmentation and provide recommendation for customer retention.

### ■ Predictive and prescriptive analysis

- Predictive and advanced analytical techniques will help in updating models and batch scoring in real-time and it can also automate many tasks such as handling human errors so that more reliable and consistent analytical processes can be delivered.
- Reporting and business rules management are preintegrated, which will support IBM's customer needs such as replying to ad-hoc queries.

### ■ Real-time scoring

- IBM's real-time scoring will enable organizations to consistently maintain customer profiles to identify best audience for campaigns. It also updates customer details and provides required recommendations on a real-time basis.
- It allows marketing, sales, customer service teams to collaboratively visualize cross-channel journeys, set common marketing goals, and design modified customer experiences more easily within the user-friendly, drag-and-drop interface.

### ■ Integration support<sup>9</sup>

- IBM's Universal Behavior Exchange (UBX) allows PCI users to easily configure ingestion of data source.

## IV. Challenges

### ■ Installation prerequisites

- IBM's PCI requires additional prerequisite software, processing, and disk space for installation that will result in excessive time consumption.

### ■ Digital analytics

- Compared to its competitors, IBM does not provide upgraded features such as web and mobile analytical products.

### ■ AI capabilities

- IBM Watson's customer engagement AI capabilities are still in the development phase compared to its more developed machine learning tools.

<sup>7</sup> <https://www.ibm.com/blogs/bluemix/2016/10/predictive-analytics-renamed-watson-machine-learning-service/>

<sup>8</sup> <https://www.ibm.com/us-en/marketplace/predictive-customer-analytics>

<sup>9</sup> [https://www-01.ibm.com/events/ww/e/grp/grp309.nsf/vLookupPDFs/Q3%202016%20Evento%20dia%2023%20Joe%20Cosentino/\\$file/Q3%202016%20Evento%20dia%2023%20Joe%20Cosentino.pdf](https://www-01.ibm.com/events/ww/e/grp/grp309.nsf/vLookupPDFs/Q3%202016%20Evento%20dia%2023%20Joe%20Cosentino/$file/Q3%202016%20Evento%20dia%2023%20Joe%20Cosentino.pdf)

<sup>10</sup> <http://ecc.ibm.com/case-study/us-en/ECCF-IMC15054USEN>

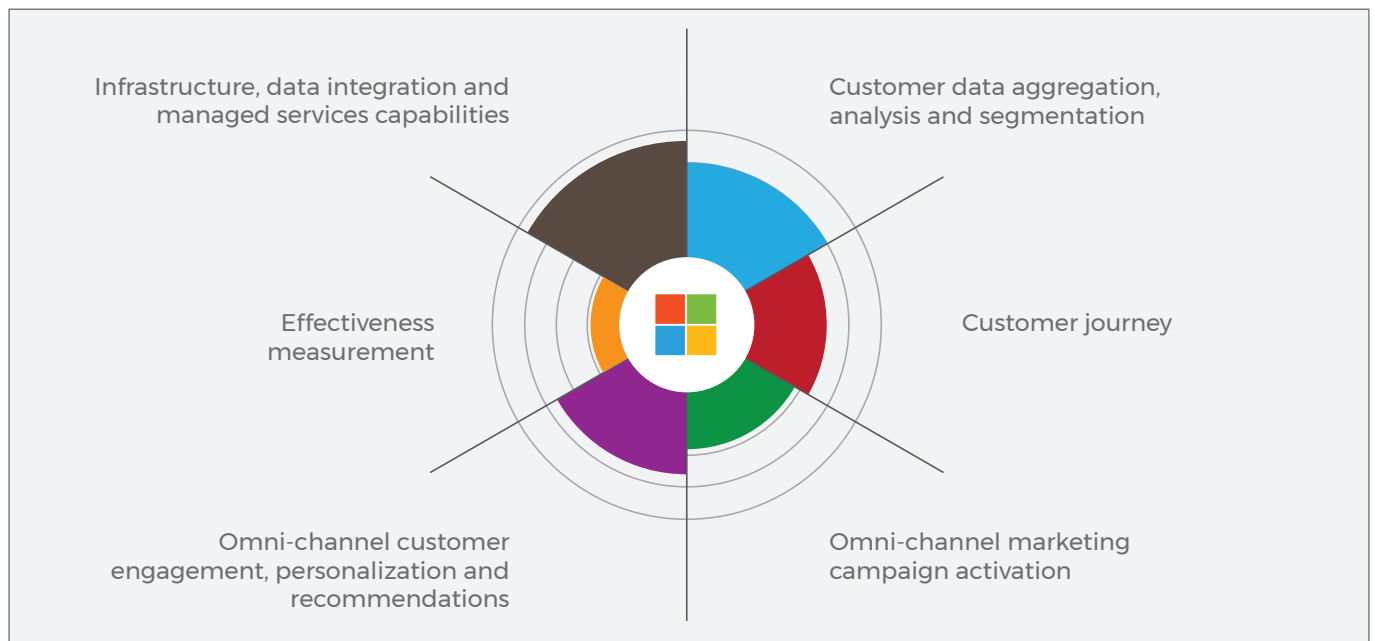


## 2. Microsoft

Microsoft Dynamics 365 has intelligent business application capabilities that convert customer data into insights. It extends the solution by enabling business-specific KPIs and industry-specific dashboards.

Major highlights of this module are Omni-channel campaign activation, customer engagement, personalization, effective measurement, and touchpoint recommendations. The advanced predictive analytics capabilities enable the customer insight module D365 to position itself among the best CI modules present in the market.

Microsoft collectively offers personalized retail experience to customers. Journey discovery, predictive analytics capabilities, and physical and digital touchpoint recommendations give this module a lead position among its competitors.<sup>11</sup>



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

### II. Specialization areas

Microsoft Dynamics 365 helps organizations gain in-depth insights on customer preferences. Data analytics enables retailers to make logical inferences about customers' preferences and automates prescription of personalized recommendations. It also analyzes customers' attributes such as purchase history, demographics, and interactions to deliver relevant offers using built-in predictive analytics.

<sup>11</sup> <https://www.microsoft.com/en-in/dynamics365/customer-insights>

### III. Strengths

#### ■ Microsoft 365 for customer insights<sup>12</sup>

- Microsoft 365 helps in understanding and engaging with customers for collecting comprehensive insights and providing a 360-degree view of the customers to predict their future needs, resulting in one of the most holistic customer journey visualizations.
- Easy-to-reference dashboards help in creating effective visualizations that illustrate customer's engagement and in delivering personalized, effective customer data for identifying future opportunities.

#### ■ Predictive analytics

- Microsoft 365 has built-in predictive analytics that analyzes target audience's details and delivers relevant offers and content. It also assists in identifying future opportunities to effectively target the right customers.
- Predictive analytics also monitors every individual customer's data point in real-time.

#### ■ AI support

- The Microsoft AI solution increases human ingenuity in customer service and engagement across channels, enabling brands to convey remarkable customer experiences.

### IV. Challenges

#### ■ Customer insights constraints

- Lack of on-premise deployment support.
- Absence of client application program interfaces (APIs).

#### ■ Loyalty & CRM integration capability

- The loyalty integration requires customization of their modules/solutions.

#### ■ Cost

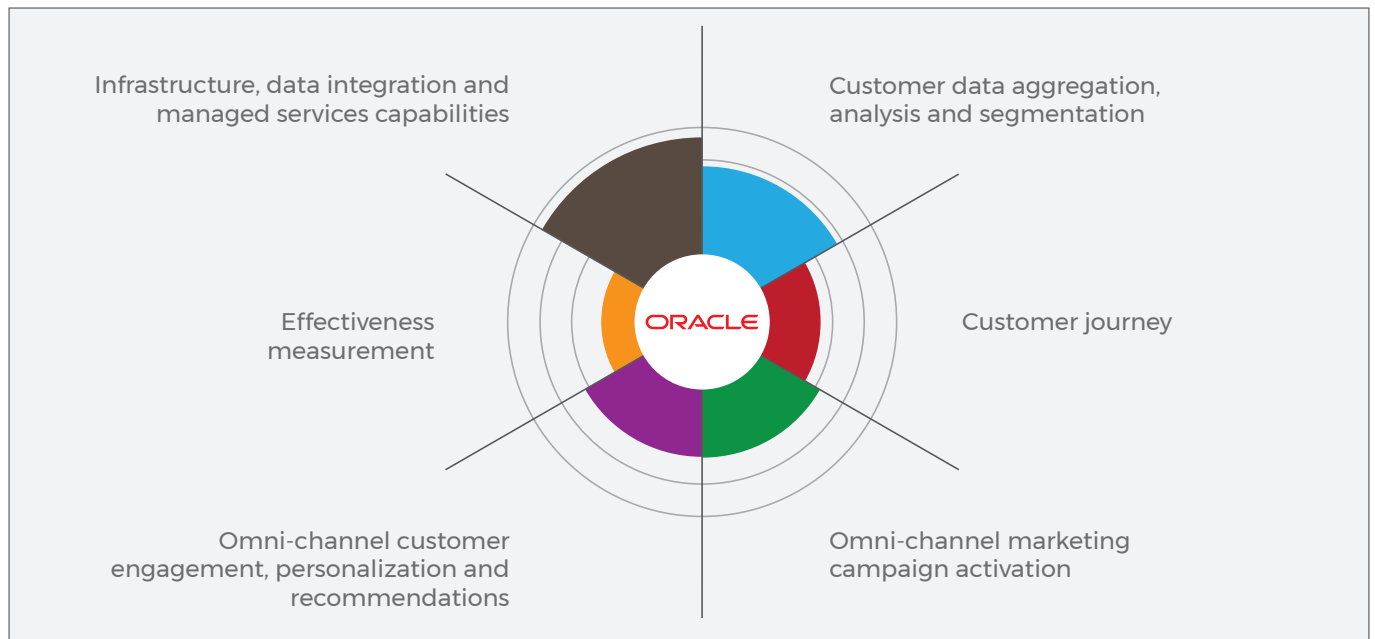
- Extensions or add-on portal support such as Microsoft SharePoint increase the overall platform cost.

<sup>12</sup> <https://customers.microsoft.com/en-us/story/hp-manufacturing-microsoft-ai>

### 3. Oracle

Oracle develops, markets, sells, hosts and support application, platform and infrastructure technologies for IT environments.

Oracle Data Cloud provides businesses with the finest understanding of customers across both digital and traditional channels based on their buying patterns. It also enables data-driven retailers to personalize and measure every customer interaction.<sup>13</sup>



#### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

#### II. Specialization areas<sup>14</sup>

- Oracle Data Cloud enables businesses to utilize customer information for measuring and marketing.
- Data as a Service (DaaS) will help companies to connect with the right audience, personalize their information and eventually measure the effectiveness of every customer engagement. It also enables retailers to integrate data across 40 million sites and analyze documents on a daily basis to expand customer understanding.

#### III. Strengths<sup>15</sup>

##### ■ Unified customer data

- Oracle's DaaS compiles, analyzes and activates customer information into a single unified solution and along with ID Graph, DaaS creates cross-channel customer understanding to collect more insights on customer preferences.

<sup>13</sup> <https://www.oracle.com/applications/customer-experience/data-cloud/solutions/data-as-a-service/index.html>

<sup>14</sup> <http://www.oracle.com/us/corporate/profit/features/071014-docusign-2244455.html>

<sup>15</sup> <https://cloud.oracle.com/customer-experience-cloud>

#### ■ **Easy integration**

- To keep a single and clear view, DaaS enables integration of customer data with Oracle Sales Cloud Account Center and Customer Data Management.
- Oracle CX cloud focuses on the customer's contextual needs by sourcing and integrating data from multiple channels, as well as identity management across multiple platforms and social networks.
- Oracle DaaS service can be plugged into any organization's business intelligence tool of choice or any Oracle cloud solution.

#### ■ **Advanced API support**

- The Semantic API and the enriched social data feed along with the cross-channel ID unification will provide comprehensive view of customers and their preferences across different sets of data.
- APIs will categorize the customer's requirements and will provide better insights on customer's buying behavior.

#### ■ **Customer understanding**

- DaaS consists of sentiment analysis in more than 20 different languages. This will enable customer understanding for global enterprises which in return increase customer intelligence significantly.

#### ■ **Data categorization**

- DaaS advanced listening technology has validated categorization accuracy to enhance an organization's ability to turn massive amounts of unstructured data into valuable customer signals.
- Unified ID mapping and a scalable infrastructure will offer accurate customer data categorization, big data scalability and extensibility into Oracle Business Intelligence (BI) tools of preference for better customer intelligence insights.

### **IV. Challenges**

#### ■ **Privacy breach**

- Oracle needs to strengthen their organizational strategies and business procedure to protect the customer data in DaaS data center.

#### ■ **Lack of data security**

- As DaaS system carries definite privacy problems, it is necessary for Oracle to invest in stronger, updated security measures.

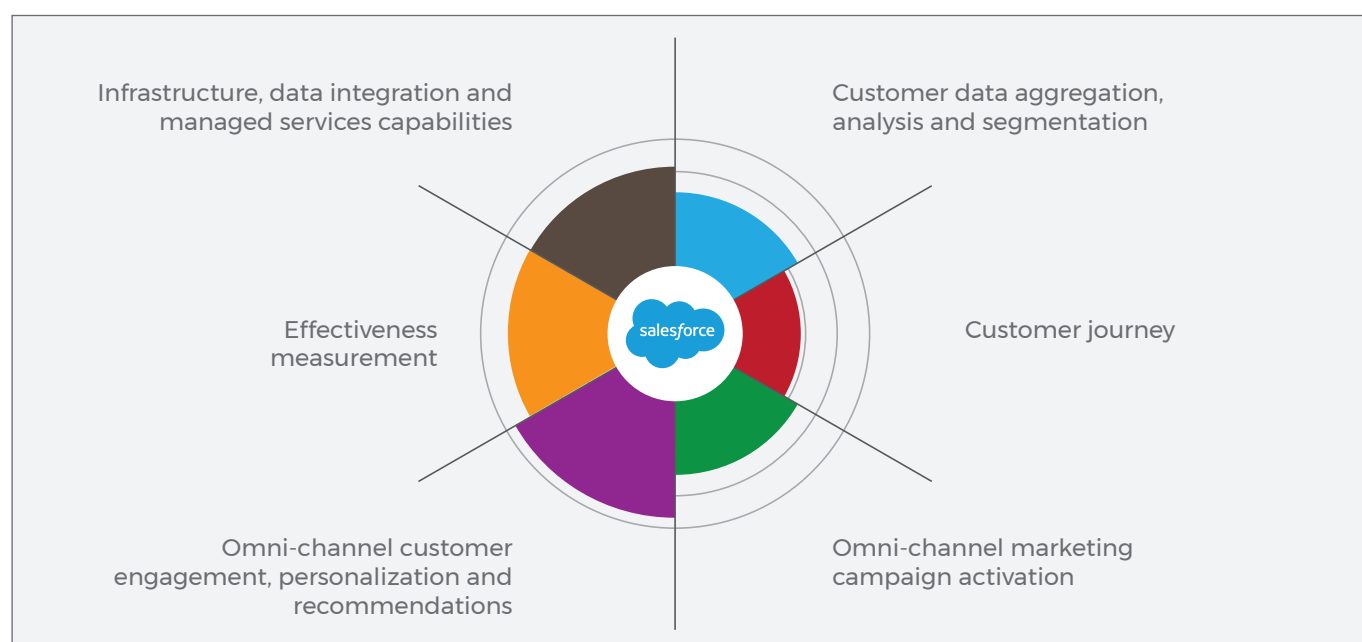
## 4. Salesforce

As one of the leading CRM solutions provider, Salesforce excels in integration capabilities within their tools. Salesforce's Marketing Cloud helps organizations to build and manage a personalized customer journey. It also provides a personalized experience by leveraging a complete 360-degree view of every individual.

Salesforce provides a seamless CRM and loyalty program integration that allows customers to connect over social media channels for relationship development. Based on the insights generated, executing campaigns becomes easier for retailers.

Marketing Cloud has an easy setup of a command center that can be customized and displayed on any device from any location.<sup>16</sup>

Salesforce's advanced analytical capabilities include machine learning and real-time analytics, which are at par with current market practices. However, Salesforce can do better in terms of integration capabilities with external ecosystems players giving it a disadvantage over its competitors.



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

### II. Specialization areas

- Salesforce's Marketing Cloud platform provides a relevant personalized customer journey across different channels and devices.
- It has major expertise in 1-to-1 customer journey through Omni-channel delivery, data-driven interactions, and developing experiences of the customers.
- Salesforce's Marketing Cloud collects data from across the customer success platform and acts or updates the changes automatically on a real-time basis.

<sup>16</sup> [https://www.salesforce.com/form/conf/demo-marketing-journey-builder.jsp?leadcreated=true&chapter=236830&ls=Website&videoId=&\\_\\_element=pre&Iss=&DriverCampaignId=70130000000sUVb&lssm=&redirect=true&FormCampaignId=70130000000iCqx&playlistId=&d=&mcloudHandlingInstructions=&ppi=&landing\\_page=%2Fform%2Fdemo%2Fcrm-marketing-demo-journey-builder.jsp&camp=](https://www.salesforce.com/form/conf/demo-marketing-journey-builder.jsp?leadcreated=true&chapter=236830&ls=Website&videoId=&__element=pre&Iss=&DriverCampaignId=70130000000sUVb&lssm=&redirect=true&FormCampaignId=70130000000iCqx&playlistId=&d=&mcloudHandlingInstructions=&ppi=&landing_page=%2Fform%2Fdemo%2Fcrm-marketing-demo-journey-builder.jsp&camp=)



### III. Strengths<sup>17</sup>

#### ■ Customer experience management

- Salesforce's Marketing Cloud delivers a consistent, in-depth customized customer journey across all channels, devices, and business capacities. It also utilizes email, SMS, push notifications, advertisements, web, and applications to reach out to customers on every single digital channel.

#### ■ Predictive analysis

- Predictive analysis supports in configuring and integrating data to uncover new insights, and helps in delivering a personalized journey to every customer.
- It analyzes patterns across all channels to deliver highly personalized messages.

#### ■ Analytical tools

- Machine learning, AI, email analytics, and reporting helps in measuring audience engagement effectiveness.
- Real-time tracking and analytical tools are used to track customer behavior across their journeys.

### IV. Challenges

#### ■ Cost

- Salesforce's marketing cloud is expensive, especially for the automation process across multiple channels due to multiple add-on requirements.

#### ■ Complexity

- Since the back-end system of marketing cloud is complex in nature, troubleshooting becomes difficult.

#### ■ Weak customer journey capabilities

- Marketing cloud does not adequately support customization of online/offline touch points.

<sup>17</sup> <https://www.salesforce.com/in/products/marketing-cloud/platform/predictive-internet-intelligence/>

<sup>18</sup> <https://www.salesforce.com/customer-success-stories/dunkin-brands/>

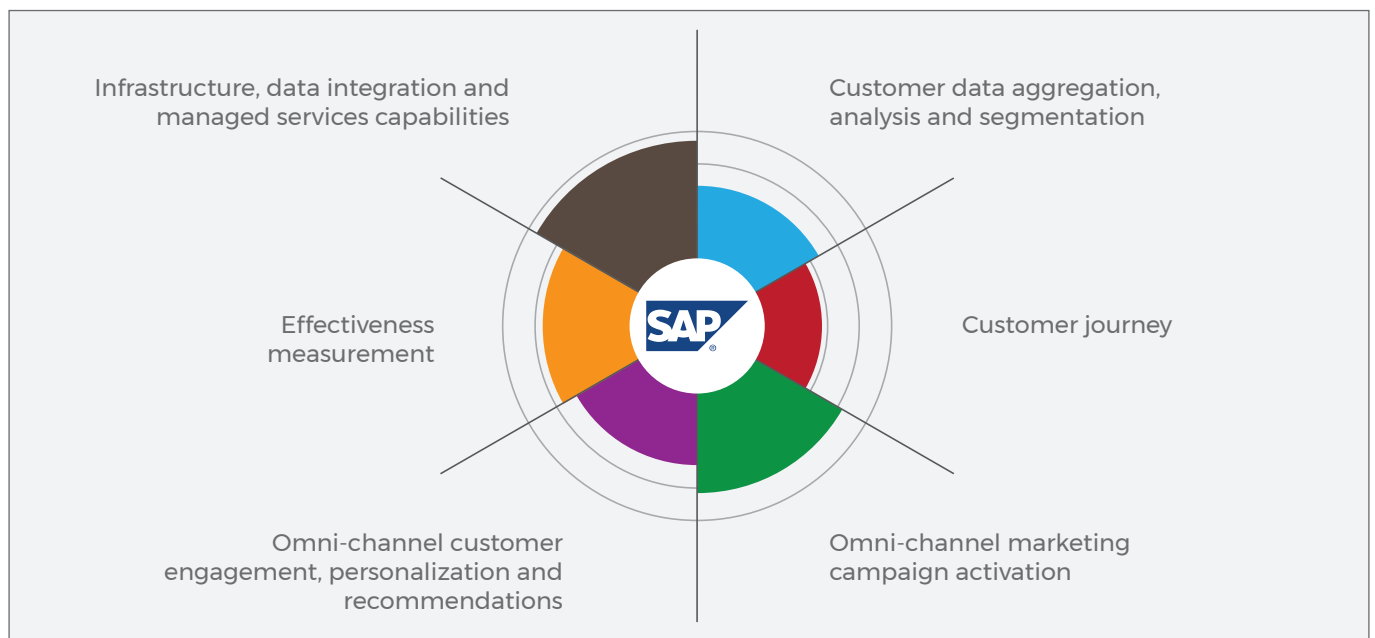
## 5. SAP

SAP, a multinational software company, develops business software solutions for various industries. In 2016, SAP implanted its SAP Analytics Cloud within the SAP Hybris Marketing Cloud. SAP Hybris Marketing Cloud provides a real-time customer profile that can be updated with data from several channels.

SAP builds a stronger relationship with their customers by interacting with them at every touchpoint throughout their journey. SAP Hybris journey mapping offers strong discovery and visualization tools that will render deeper insights into customer behavior and patterns for better understanding of their journeys.

SAP Hybris solution provides latest technologies to redefine customer engagement and customer retention (customer journey overview). For advancements of new technologies such as machine learning and AI, SAP has been conducting research by collaborating with top tier universities. Retailers use SAP's machine learning algorithms for churning out the customer data.

SAP's predictive analysis is strong but their prescriptive analysis is not up to mark compared to market standards; this solution also has some compatibility issues.



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

### II. Specialization areas

- SAP helps businesses to expand their customer base by interacting with them anywhere and anytime. Through real-time analytics, SAP can create effective, targeted customer engagement activities and customize them quickly.
- SAP solutions support retailers with integrated, end-to-end business processes that run on different modes such as on-premises, cloud, and mobile devices.

### III. Strengths

#### ■ SAP Consumer Insight 365

- Mobile marketing research services assist retailers with real-time information on customer behavior and market intelligence and it creates data analysis to interpret data and utilize an in-built template to produce quick and instant insights of the findings.

#### ■ Omni-channel customer experience<sup>19</sup>

- SAP Hybris's CI helps in creating personalized consumer profiles through offline and online channels using their insights and real-time analytics to improve marketing services.
- Retailers can strengthen customers' loyalty and increase organization's sales with fast, customized service interactions.
- SAP Hybris journey mapping tools provide customer's behavioral patterns for a better understanding of their journeys.

#### ■ Predictive analytics for problem solving<sup>20</sup>

- Predictive algorithm, machine learning, IoT, big data, and analytical tools allow creating better and quicker customer insights for forecasting the future trends and patterns.
- Predictive analytics helps in better understanding of customer behavior and provide improved services in real-time.

#### ■ In-depth customer segmentation

- Businesses can use SAP's segment builder (drag-and-drop interface) for building and targeting distinctive customer segments.

### IV. Challenges

#### ■ Cost

- The deployment cost is high compared to the other competitive platforms.

#### ■ Compatibility issues

- SAP does not support other application sources other than their own products.

#### ■ Data management

- SAP's data-handling process is complex and requires robust IT support for implementation.

<sup>19</sup> <https://news.sap.com/sap-solutions-retail-drive-Omni-channel-customer-experience/>

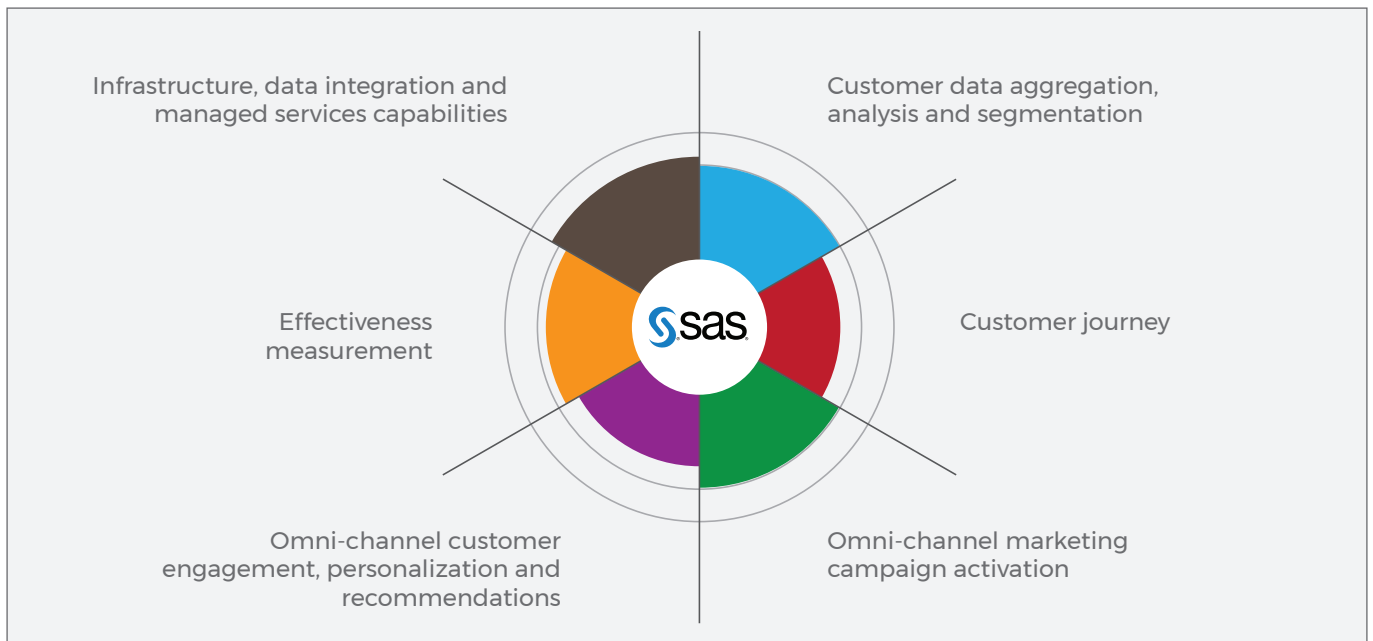
<sup>20</sup> <https://www.sap.com/products/analytics/predictive-analytics.html>

<sup>21</sup> [https://www.sap.com/india/industries/retail/omnichannel-customer-experience.html?url\\_id=text-in-retail-l1-ctrl-extd-nav4-A](https://www.sap.com/india/industries/retail/omnichannel-customer-experience.html?url_id=text-in-retail-l1-ctrl-extd-nav4-A)

## 6. SAS

SAS is one of the leading solution providers in analytics and development of contextual personalization based on these insights. In 2016, SAS launched the Customer Intelligence 360 solution with sector-specific features, retail analytics being one of them. The solution assists business customers in effective decision-making based on business intelligence, innovative analytics, and data management software.

SAS's Omni-channel trade area analytics captures customer data in characterized groups across different channels. The customer intelligence platform builds customer profiles with automated data flows that segment customers in a comprehensive manner. This segmentation results in customization of pricing, sales, and marketing models for various industries such as automotive, healthcare, manufacturing, retail, and others.<sup>22 23</sup>



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

### II. Specialization areas

- SAS' Customer Intelligence provides a unified, open analytical platform to assist businesses engaging with customers and successfully maps seamless customer journey using data, analytics, and insights in real-time.
- Retailers can yield customers' future preferences through machine learning and AI algorithms. SAS also consists of an open marketing platform, that is, a flexible platform that is capable of integrating both online and offline marketing.

<sup>22</sup> [https://www.sas.com/content/dam/SAS/pl\\_pl/doc/whitepaper1/the-power-of-personalizing-the-customer-experience-white-paper.pdf](https://www.sas.com/content/dam/SAS/pl_pl/doc/whitepaper1/the-power-of-personalizing-the-customer-experience-white-paper.pdf)

<sup>23</sup> <https://blogs.sas.com/content/customeranalytics/2015/07/27/the-power-of-real-time-contextual-marketing/>

### III. Strengths<sup>24 25</sup>

#### ■ Smart analytical marketing strategies

- Retailers adopt various analytical tools such as machine learning and self-learning decision management solutions to gain insights, understand customer preferences, and maximize ROI. Streamlined analytical marketing strategies help retailers to minimize cost and boost growth and profitability.<sup>26</sup>

#### ■ Effective customer journey

- Journey analytical capabilities will help the businesses to drive longevity, loyalty, and growth by identifying the customers and understanding their buying behavior. Also, data integration and data quality management will help in preparing the data for analysis and making effective future decisions.
- Retailers use a customer journey model to predict customer's future preferences and also to enhance their experience. Channel service integration helps retailers synchronize business process and enterprise directory service, which provides them with powerful scalability options.

#### ■ Real-time customer experience<sup>27</sup>

- SAS's Customer Intelligence has the ability to aggregate the customer data to provide relevant, Omni-channel experience in real-time. SAS delivers an intelligence platform that includes a complete and robust environment for the enterprises, delivering an improved decision-making process and increased internal performance.

### IV. Challenges

#### ■ Complex coding language

- The syntax is complex in nature and requires an elaborated and time-consuming learning procedure.

#### ■ Pricing model

- The overall cost of ownership is high compared to other competitors.

#### ■ Complex deployment and integration

- SAS' APIs have been implemented for internal function but cross-channel integration is still a problem.

#### ■ Community space

- As SAS lacks good quality of customer support, consumers' grievances remain unnoticed.

<sup>24</sup> <https://blogs.sas.com/content/customeranalytics/2017/01/26/customer-journey-optimization-a-real-world-example/>

<sup>25</sup> [https://www.sas.com/en\\_us/software/customer-intelligence-360.html](https://www.sas.com/en_us/software/customer-intelligence-360.html)

<sup>26</sup> [https://www.sas.com/content/dam/SAS/en\\_us/doc/conclusionpaper1/statistics-machine-learning-at-scale-107284.pdf](https://www.sas.com/content/dam/SAS/en_us/doc/conclusionpaper1/statistics-machine-learning-at-scale-107284.pdf)

<sup>27</sup> [https://www.sas.com/en\\_us/insights/articles/marketing/real-time-customer-engagement.html](https://www.sas.com/en_us/insights/articles/marketing/real-time-customer-engagement.html)

<sup>28</sup> [https://www.sas.com/en\\_in/customers/harry-and-david.html](https://www.sas.com/en_in/customers/harry-and-david.html)

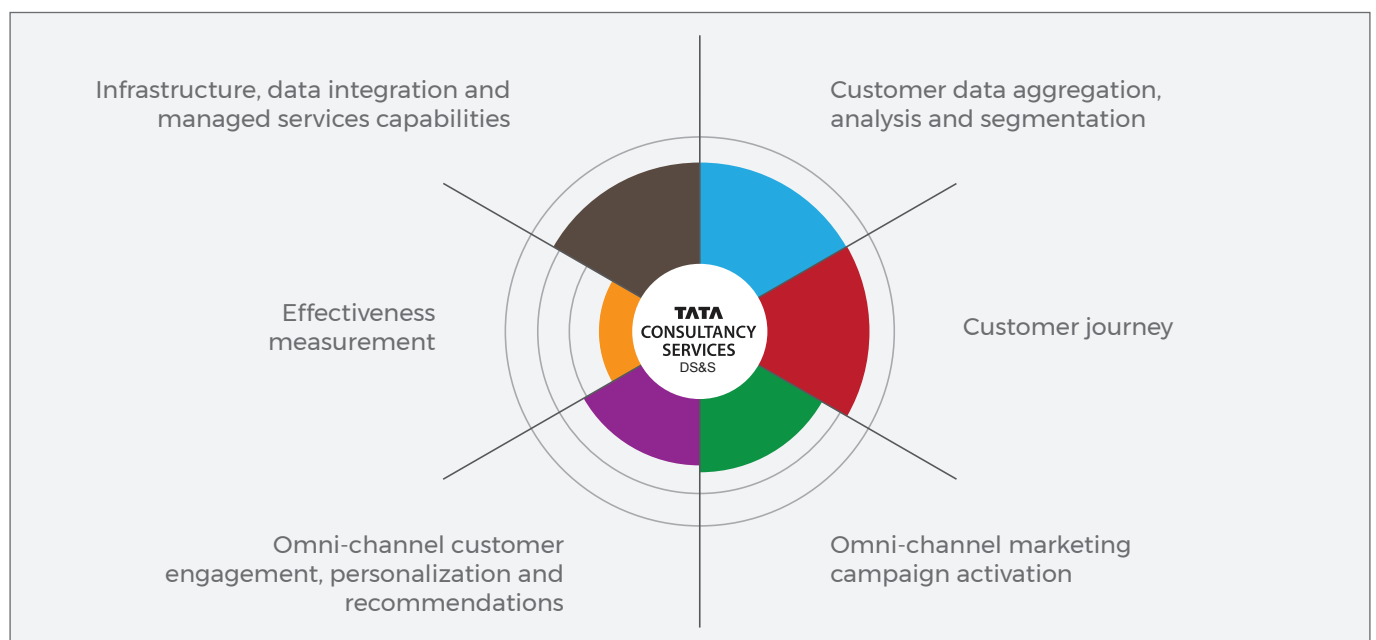


## 7. TCS

In 2015, TCS introduced Customer Intelligence & Insights (CI&I) to enable its clients deliver exceptional customer experiences at every step of the customer journey, in a quick and cost effective manner. The pre-integrated and operational analytical software solution is part of the TCS Digital Software & Solutions Group, launched in 2014 with a focus on retail, BFSI and communication service providers. For retailers, CI&I supports marketing effectiveness and delivers a seamless customer experience across physical and digital channels. CI&I leverages real-time network intelligence and customer insight for proactive experience.<sup>29</sup>

CI&I creates personalized digital services and management for emerging opportunities in B2C and business to business to consumer (B2B2C) markets.

TCS has developed CI&I capabilities such as customer intelligence, journeys management, multi-attribute customer-level personalization and real-time contextual recommendations to excel in the Omni-channel customer journey. CI&I capabilities such as demand-based planning supply chain and merchandising operations is under development.<sup>30</sup>



### I. Geographical coverage

Asia-Pacific, Europe, Middle East and the Americas.

### II. Specialization areas

To generate comprehensive insights, CI&I collects, filters, and analyzes customer information. Its IoT-based customer analytics platform is for real-time customer engagement across various channel touchpoints interfacing with the digital ecosystem. It also helps retailers to create new value for customers. CI&I's journey discovery is a strong capability set that helps deliver personalized marketing, engagement and seamless experiences across store and online channels.

<sup>29</sup> <https://www.tcs.com/content/dam/tcs/pdf/product-details/DSS/customer-intelligence-retail.pdf>

<sup>30</sup> <https://www.ibm.com/customer-engagement>

### III. Strengths

#### ■ Customer experience

- CI&I improves retail customer engagement and marketing with the insights generated from both digital and physical channels and also helps in understanding every customer's behavior through their social media engagement. Customer journey discovery and utilization in campaign planning is very effective.

#### ■ Operational efficiency

- CI&I enhances the marketing decision-making process with updated enterprise-wide information from sales and customer care. It also improves demand forecasts, ROI measurement of marketing campaigns, and programs based on quantification of the customer journey movement.

#### ■ Analytical solution

- CI&I uses machine learning techniques, IoT, and statistical algorithms to build unique, digital customer personas and models enabling real-time recommendations to align marketing and engagement programs.
- Embedded journey driven NBO/NBA allows retailers to have an integrated view of customers in-store and outside store shopping journeys and plan and design multi-level Omni-channel engagements supported by IoT capabilities across various platforms such as mobile, store, online, etc.

#### ■ Data Integration

- CI&I has multichannel retail integration services that can easily integrate with out-of-box data services and APIs.

### IV. Challenges

#### ■ Cost

- Compared to other platforms, TCS' CI&I platform has comparable pricing based on the category focus.

#### ■ Demand sensing and demand planning

- TCS' CI&I journey-based demand signal for discovering trends and short-term forecasting is under development.

#### ■ Contextual journey engagement

- Real-time contextual engagement for goal-based journey management is still under development.



## Conclusion

Analyzing customer interactions across multiple channels or touch points is key to understanding and engaging effectively with customers. In order to capture customer attention and increase brand trust, most retailers aim to enhance their journey analytics capabilities with a prime goal to increase engagement and drive sales. Retailers are using predictive modeling to optimize customer interactions and create a customized journey for each shopper. Using structured (point-of-sale, loyalty, market data) and unstructured customer data (social media, Wi-Fi, beacon, others) based on real-time purchase behavior, brand/product preference, and interests, marketers are taking special care to deliver personalized communications to customers.

An effective use of customer insights can provide impetus to retailers' gross margin as well as help to increase customers' share of wallet. However, retailers lag in terms of analytics capabilities compared to market leaders such as Amazon. Rapid adoption of emerging technologies such as big data, machine learning, and AI to analyze information from multiple channels (e.g. social, mobile, retail POS, e-commerce, in-store purchase, customer voice, etc.) will help retailers offer real-time personalized customer experience. Moreover, gaining the real-time understanding of customer journey will boost quality of customer interactions across journey path and better business decisions. Vendors in the US market should focus on this.

Retailers need to focus on customer intelligence, journey and engagement solution that helps to build and assess dynamic customer journey path and empower customers with optimized interactions. Vendor solutions that provides flexible and scalable architecture to integrate with other platforms and offer state-of-the-art and comprehensive customer intelligence would be the real winners in the market.



## Methodology

### Vendor selection criteria

- Vendor is present in and providing product/service offering to retail businesses in the U.S.
- Vendor provides customer intelligence, journey and engagement solutions that enable businesses to draw key customer insights on segmentation, engagement, personalization, etc. based on advanced analytics capabilities.
- Solution offered by vendor possesses integration capabilities w.r.t. data, loyalty, channel, and cloud, across various functions in the retail sector. EIQ considered several other vendors including Adobe, ClickFox, etc. However, these companies are not shortlisted due to their lack of **Omni-channel** customer intelligence, personalization and engagement capabilities.

### Benchmarking framework

- Vendors were assessed and benchmarked on 20 criteria, clubbed into six broad features.
- Applying weighted average, an overall peer-to-peer comparison of seven vendors was derived.

### Customer intelligence and journey analytics capability set assessment criteria:

#### Customer data aggregation, analysis and segmentation



- Omni-channel data integration (online and offline/IoT)
- Dynamic data collection
- AI and machine learning based algorithms
- Pre-built customer profiles
- Attributes defined
- In-depth customer segmentation

#### Customer journey



- Customer journey engagement (Customization of online and offline touch point actions)
- Journey discovery
- End-to-end customer journey depiction/visualization (Customer behavior analysis)
- Reusable saved journeys

### Omni-channel marketing campaign activation



- Digital personas
- Campaign management
- Campaign activation
- Applying customers attributes
- Offer integration

### Omni-channel customer engagement, personalization and recommendation



- Real-time customer engagement
- Contextual personalization
- Physical and digital touch point recommendations (Prescriptive analysis)

### Effectiveness measurement



- Predictive analytics capabilities
- Gap analysis

### Infrastructure, data integration and managed services capabilities



- Integrated data services
- CRM/loyalty integration
- Channel services integration
- Performance and scalability
- Cloud

#### Data sources used:

- We conducted primary interviews with industry experts to identify key vendors and also develop the list of criteria to evaluate the vendors.
- The vendors were shortlisted on the basis of their presence in the target country and presence in the retail segment.
- For vendor evaluation, we conducted intensive secondary research and screened numerous demo videos to gauge the solutions' features.
- In addition, we engaged with key company executives (sales and marketing), resellers and clients to thoroughly understand the features and functionalities offered by the vendors.





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