



BOSCH



RE-INVENTING

CUSTOMER SERVICE

WITH ARTIFICIAL INTELLIGENCE

Author: **Debmalya Roy**

Service Line Lead, AI and Data Science Consulting,
Bosch Software and Digital Solutions

EXECUTIVE SUMMARY

Consumer buying behavior has taken a quantum leap in the last decade. Increasingly customers are turning to digital platforms to browse, explore and buy products and services. The COVID-19 pandemic has accelerated this shift with digital channels becoming more popular as a safer and faster alternative compared to physical channels for shopping. For every organization, enabling customers with the right purchase decisions at the right time is a strategic focus area. But that's easier said than done. Increased customer expectations, lower cost of customer attrition and a surge in digital channels have forced organizations to rethink traditional delivery channels and create new ways to empower customers with the right information and incentives—when and where they need it most. Businesses are expected to meet their customers' needs seamlessly across all channels and enable seamless customer experience throughout the buying process and even post-sales support. As few examples wherein organizations have stepped up their digital capabilities to provide immersive experiences to customers across channels.



Usage of AI-powered delivery robots has been on the rise for Consumer product and B2C Retail Organizations



Powered by augmented reality and AI, increasingly automotive dealerships and OEMs are providing digital showrooms by offering a fully digital customer experience.



AI is enabling quality healthcare at a much faster pace with high degree of cost effectiveness, through the usage of augmented reality glasses to check the temperature of thousands of people in a span of minutes, detection of PPE Kits and Facial Masks.

The customer service function is at an inflection point and increasingly organizations are struggling to meet customer expectations and provide a seamless digital customer experience across channels. Customers who are continuously connected to the company through a multitude of digital channels are expecting fast, personalized and customized experience, which can only be enabled by deep customer knowledge and broad servicing capabilities.



Consider these emerging trends:

- ✓ At-least 67% of customers are willing to pay more for a great experience across their online interactions.

- ✓ Consumers have a 306% higher lifetime value and are more likely to recommend to others (71% vs. 45%), if they have an emotional connection with a brand.

- ✓ Customer Service is an important metric in deciding overall customer engagement with 4x more customers being more likely to churn to a competition, as compared to scenarios where the problem is service, product or price related.

- ✓ Companies that lead in Customer Experience outperform the rest by nearly 80%.

- ✓ Higher Revenue - Companies with a Customer Experience mindset realize 4-8% higher revenue than the rest

The message is clear: All brands need to develop capabilities in providing great customer experiences, or experience customer churn. As the move toward an end-to-end digital world accelerates, most customer experiences will be delivered through online channels, where it's more difficult to gauge sentiment and interpret reactions. Hence, managing customer experience and making it seamless and efficient is paramount to survival in today's world.

This whitepaper is a product of research on the current customer experience function, digital customer experience, key applications of digital customer experience and very importantly the future of digital customer experience. It also discusses, in-detail, on how Artificial intelligence (AI) and Machine learning (ML) enable and empower Digital Customer experiences and related value realization across Industries.

With this illustration in mind, the main objectives of this article whitepaper are as follows:



What is Digital Customer Experience



Why is Digital Customer Experience important?



Few examples and Applications of Digital Customer Experience



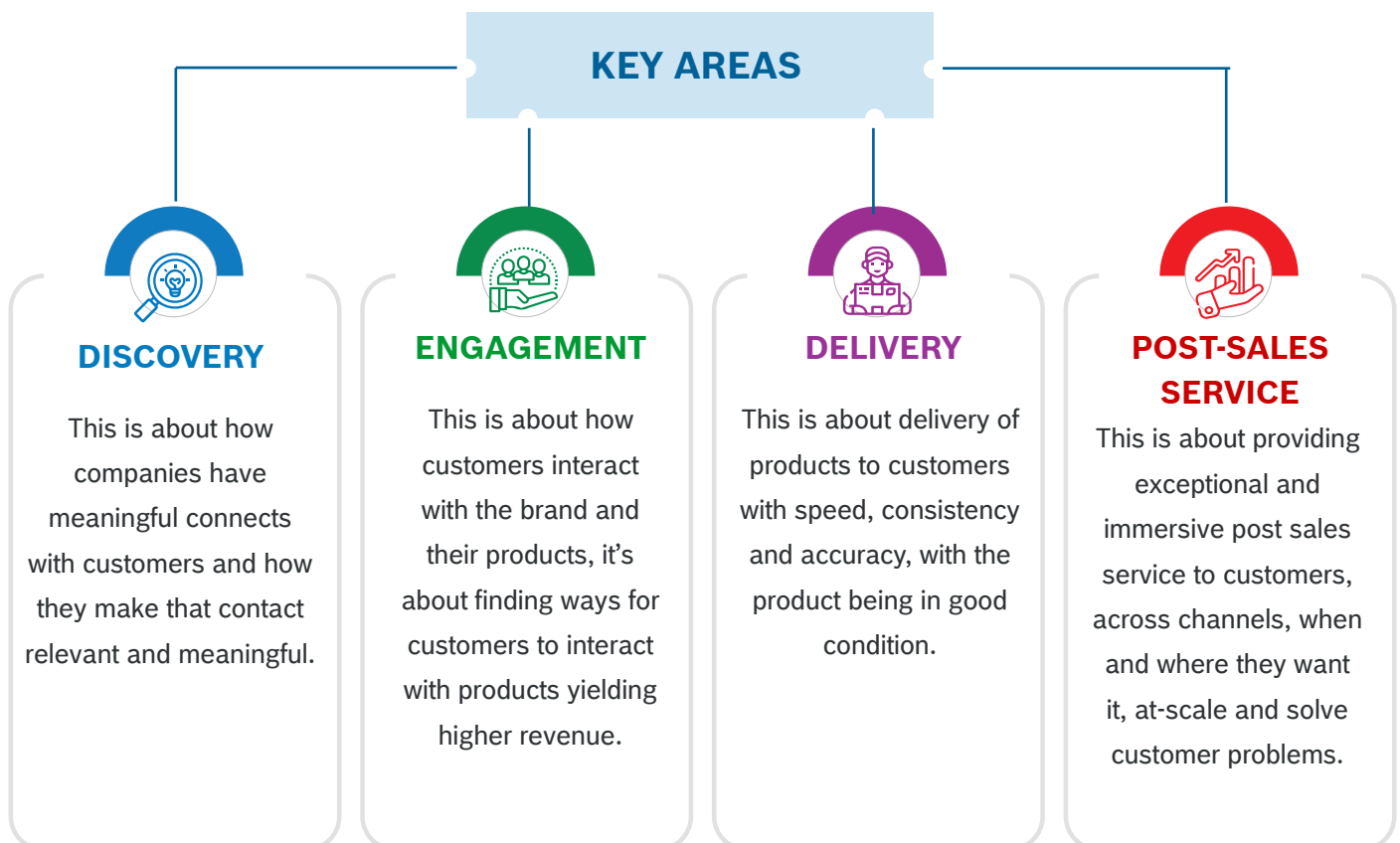
How does AI and data-driven strategy enable enhance Digital Customer Experience of the future



Bosch's Customer Experience Consulting services and AI Solutions for Customer Experience

Customer experience (CX) is the aggregate of customers' perceptions and feelings resulting from interactions with a supplier's products, services, employees, channels and systems. It is a measure of the health of customer relationships across the lifetime of the customer's association with the brand, starting at pre-purchase before a purchase is made, purchasing, usage, post-purchase support, renewals and finally repeat purchase.

The key components where customer service will play a very important role across the customer lifetime with a brand are as follows:

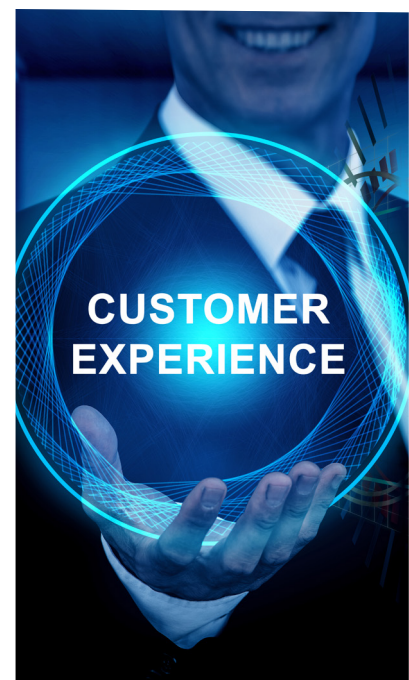


Customers have responded well to digital-native businesses, post the pandemic and this response and engagement is only expected to increase. Companies are now stepping-up their strategies to deliver personalized tech-enabled customer experiences across channels and exceed customer expectations.

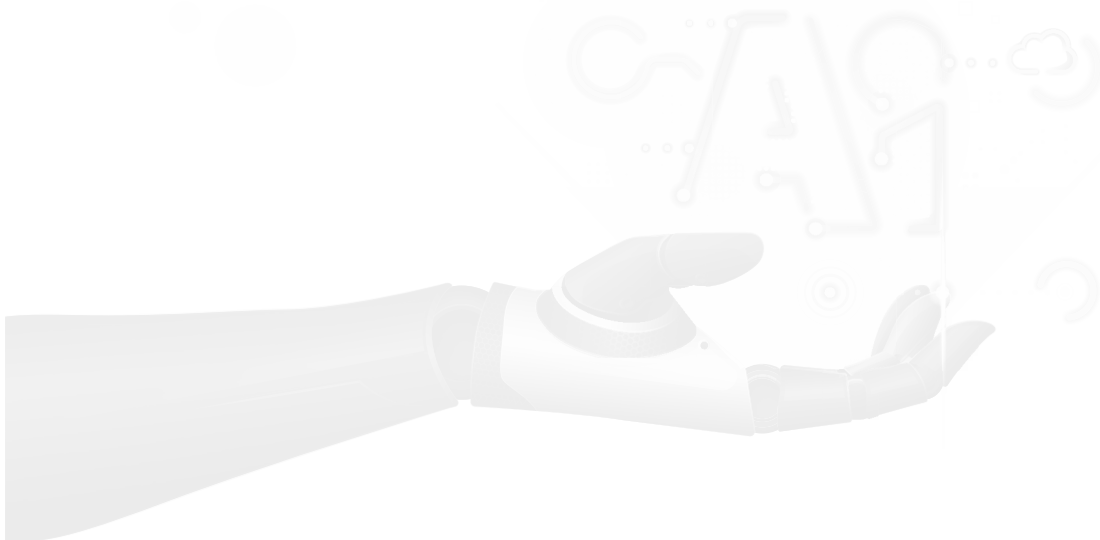
What is digital customer experience (digital CX)






Digital customer experience (Digital CX) is an aggregate of all the online interactions any customer has with any brand/ products. Digital CX includes the following activities:

- ✔ Online Product Feature Comparison.
- ✔ Checking And Product Reviews On The Online Marketplace.
- ✔ Self-Service Portals For Assistance Around A Product Or Service Or Customer Support Enquiries.
- ✔ Online Product Purchase and Usage.
- ✔ Value Added Services Like Payments And Facial Recognition Based Authentications.
- ✔ Renewals And Returns.
- ✔ Online Search And Browsing For A Product To Understand Its Features



Organizations are required to provide a seamless digital experience across all the aforesaid activities across multiple channels – including apps, call centers, retail outlets and beyond – throughout the customer journey. If CX is about showing empathy, developing trust and valued customer relationships through human connections, Digital CX is the online expression of these efforts across all of these.



				
Learn /Pre-Purchase	Purchase	Usage	Payments	Service
<ul style="list-style-type: none"> ✓ Product exploration and Product research ✓ Online and Offline Channels ✓ Understand Product Reviews and feedbacks ✓ PR/Advertising ✓ Email Promotions about the product 	<ul style="list-style-type: none"> ✓ Custom Features made available along with a product, which the customer chooses ✓ Activating the Differentiated Product 	<ul style="list-style-type: none"> ✓ Customer experiences the differentiated and customized Product Features ✓ Loyalty programs and post-Purchase events 	<ul style="list-style-type: none"> ✓ Contactless Payments ✓ Facial Recognition Systems of authentication during Payments ✓ In-App secure Payment Gateways 	<ul style="list-style-type: none"> ✓ Post-Sales Customer Service ✓ Contact Centers and Chatbots for customer service ✓ Differentiated Customer Service ✓ Self-Service Support ✓ Phone/Email Support



With the right layer of technologies which comprise data management, data analytics and AI, organizations can continually innovate their CX and transform themselves into true data-driven organizations, which is an enabler to all organizations being truly customer centric digital organizations. The future of customer experience is artificial intelligence, across all the aspects throughout the customer lifetime journey. Almost all companies, to a greater or lesser degree, are experimenting with digital technologies, especially AI, machine learning, and analytics to provide immersive and personalized customer experiences across Industries. As per Gartner, by 2025, an estimated 95% of customer interactions will be supported by AI technology.

Why is AI-enabled customer experience important?

Sales & Customer Experience Leaders can no longer rely on legacy processes and technologies to thrive in the digital world. Also, customer service has evolved from a sole helpdesk function to an end-to-end value driving function, affecting top line and bottom line. Organizations need tech-enabled processes to provide personalized Digital CX across all channels right through all the phases of customer lifetime. They need to work with their technology and marketing executives to design, deliver, and refine the human-first experiences that customers demand.

Providing a seamless digital customer experience is important since increasingly more and more customers are starting to interact with brands using digital channels. Some of the more important customer touchpoints include:

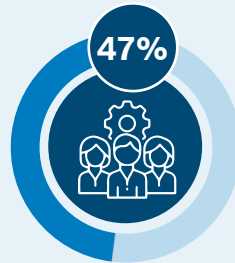
- ✔ Self-service portals that enable customers to educate themselves about a product or service and help in purchase decisions
- ✔ Remote access to product features through mobile devices
- ✔ Social media platforms
- ✔ Personalized communications through emails and SMS regarding updates on shipment delivery

With a proliferation in the number of channels for interaction and communication with brands, there are new benchmarks which are set for Customer service and experience. As per a Survey conducted by SAP, below are the most cited examples of customer experiences.

Customer-service excellence demands a fast and professional response to their needs. These were the most-cited customer expectations in a survey of more than 2,000 consumers.



Fast response times to my needs and issues



Knowledgeable staff and ready to assist



Rewards for my loyalty



A real person to speak with, regardless of time or location



Information where and when I need it

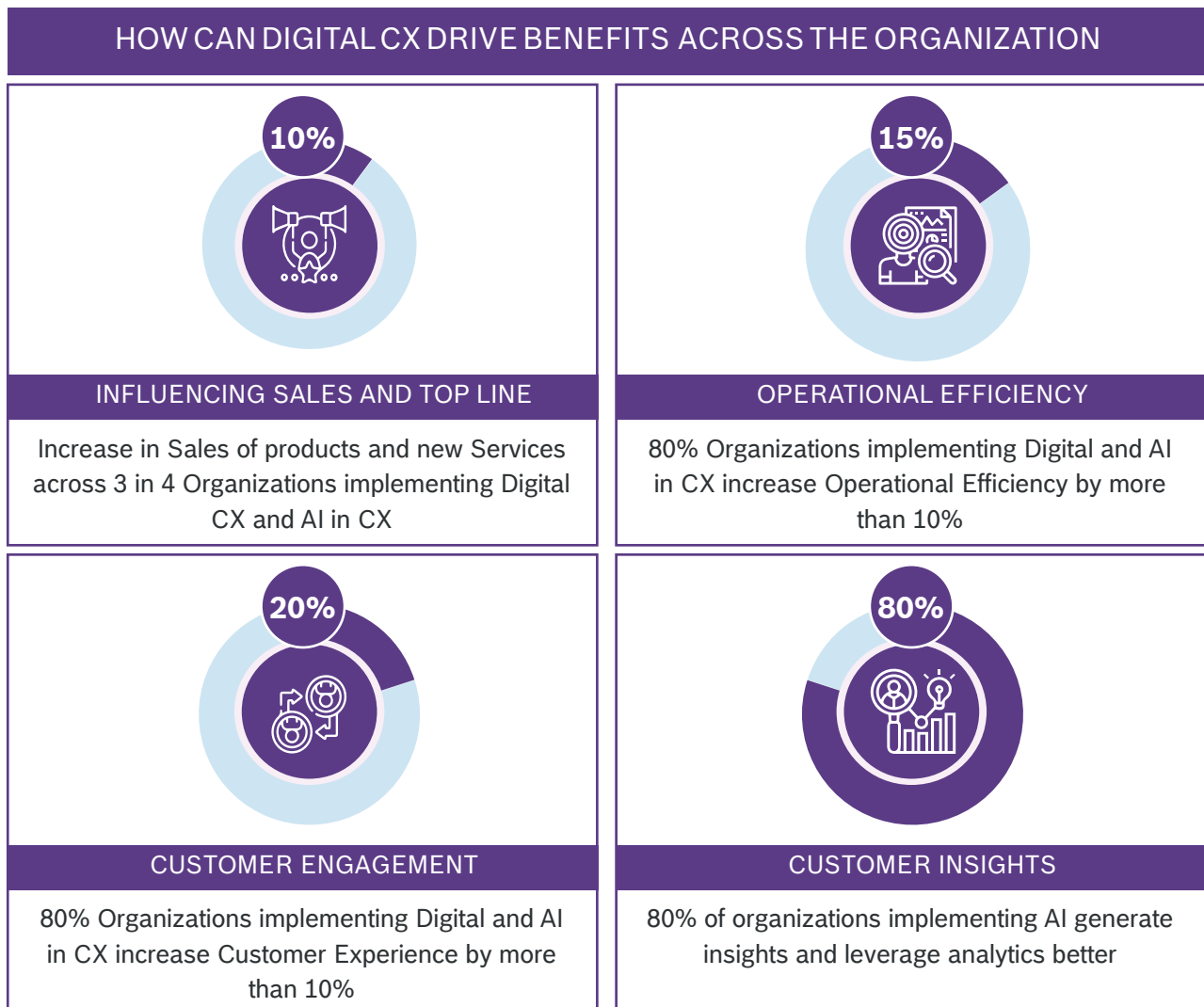
Source: The customer in Context. CMO Council/SAP Hybris, 2017

Also, leading companies are already embracing an end-to-end customer service mindset. Generation, Curation & delivery of Personalized Content & experiences across channels are becoming the priority of organizations across Industries. No longer a traditional cost center, customer service function contributes to business growth, customer loyalty and trust. A recent PWC report found that a great digital customer experience guarantees a higher share of wallet with close to 86% of buyers are willing to pay more for a great digital customer experience. Also, customer experience matters more in digital business because switching costs for customers have gone down dramatically. In digital, alternatives are seconds away since a digital service only got only a few seconds to make an impression that (hopefully) is differentiating.

Providing a seamless digital customer experience is important since more and more customers are starting to interact with brands using digital channels. Some of the more important customer touchpoints include:

- ✓ Page Traffic: the total number of site or page visits
- ✓ Page View (Unique and Repeat): the total number of pages viewed (includes repeat views)
- ✓ Average time on Page: the average amount of time users spends viewing a specific page or screen or set of pages or screens
- ✓ Page Attrition Rate: the percentage of single-page visits or the number of visits in which people left your website from the same page they visited

Digital CX can drive benefits across the organization in the below 4 areas:



Few examples of AI-enabled customer experience



- ✓ Intelligent data analysis to find trends and predict what music each customer will like – basis their previously played music
 - ✓ Personalized “Discover Weekly” playlist with music handpicked for every Spotify user
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- ✓ AI Based Intelligent Facial Recognition Software to Predict Orders by partnering with Chinese Search Giant, Baidu
 - ✓ Personalized menu recommendations by collecting and analyzing data like gender, facial expressions, past purchases and other visual features
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- ✓ Amazon Go - automated supermarket grocery store mainly in the EU, Australia and the US uses Sensor Fusion, Computer Vision, Deep Learning along with facial recognition to identify customer and items shopped
 - ✓ Amazon Alexa - Personal Assistant for Amazon is an AI-enabled machine learning entity that recognizes and processes the voice of users to execute commands
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- ✓ Siri – Personal Assistant on all Apple devices is an AI-simulated machine learning entity that recognizes and processes the voice of a user and processes commands
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- ✓ AI-powered search algorithms by analyzing similarities of places we click on, we view, host preferences, guest preferences to rank the most likely listings that we are likely to book
- ✓ Predicting and optimizing prices using variables like seasonality, local events, holidays, pricing of homes in a particular area, among others

AI-enabled customer experience of the future

According to Gartner, by 2023, more than 60% of all customer service engagements will be delivered via digital and web self-serve channels, which is an increase of 25% from 2019. Also, Gartner suggests that close to 91% of organizations are planning to deploy AI within the next three years and that by 2025, customer service organizations which will embed AI in their multichannel customer engagement platforms will leverage higher operational efficiency by 25%. Most organizations consider conversational assistants as an important enabler to augmenting customer engagement with an increasing number of consumers being satisfied getting service from a chatbot.

We believe that the impact of Digital for customer experience will be significantly felt in two ways, which are mentioned below. AI technology is already at the forefront of this transformation across industries and will lead the realization of customer benefits ranging from simplification and speed to reliability and value of interactions with the brand –

leading to more satisfied and loyal customers, across these two ways:

New ways of Interaction

- ✓ Conversational interfaces and Cognitive Computing which provide immersive experiences.

Improve the performance of existing methods

- ✓ Employee intelligence augmentation, better analysis of the data that customers provide and/or greater personalization through better understanding and better anticipation. This is operationalized through advanced Machine learning, Deep Learning and Neural Network led applications for enabling CX.



The following highlights the relevant AI Use Cases and Applications across all areas pertaining to the association of the service/product with the customer.



Below are the details of a few key areas where AI plays a huge role to enable a greater and immersive customer experience across channels throughout the lifetime of the customer’s association with the product/service.

Key Areas where AI plays a huge role to enable Higher Customer Experience	AI Applications and Use Cases to enable seamless CX	Value Additions
<ul style="list-style-type: none"> ✔ Augmented Customer Experience with chatbots and AI-powered virtual assistants 	<ul style="list-style-type: none"> ✔ AI enabled automation of repetitive tasks with Chatbots and Robotic process Automation applications ✔ AI enabled simulation of human Interactions and provide personalized responses to customer’s queries, using NLP and Natural Language Generation techniques. ✔ Next Best Offer through Chatbots ✔ Customer Insights – Personalized Content delivery during interactions ✔ AI enabled Incident and Problem Management with greater customer service (examples – Conversational AI applications for Healthcare Providers, Banks, Financial Services, etc.) 	<ul style="list-style-type: none"> ✔ Faster time to market for customer service ✔ Reduced training time for customer service representatives ✔ Higher Sales - Higher Up-Sell and Cross-Sell ✔ Greater Customer Satisfaction ✔ Higher Repeat Business ✔ Higher Profitability
<ul style="list-style-type: none"> ✔ Predictive Personalization 	<ul style="list-style-type: none"> ✔ Product Recommendations based on Customer’s online persona and purchase history, mostly for Online shopping ✔ Seamless Omni-Channel Experiences to integrate Online/Offline Channels for delivery 	<ul style="list-style-type: none"> ✔ Increased Sales with increased customer traction and engagement ✔ Personalized brand experience to enable Customer Loyalty and higher CSAT ✔ Higher Repeat Business ✔ Higher Profitability

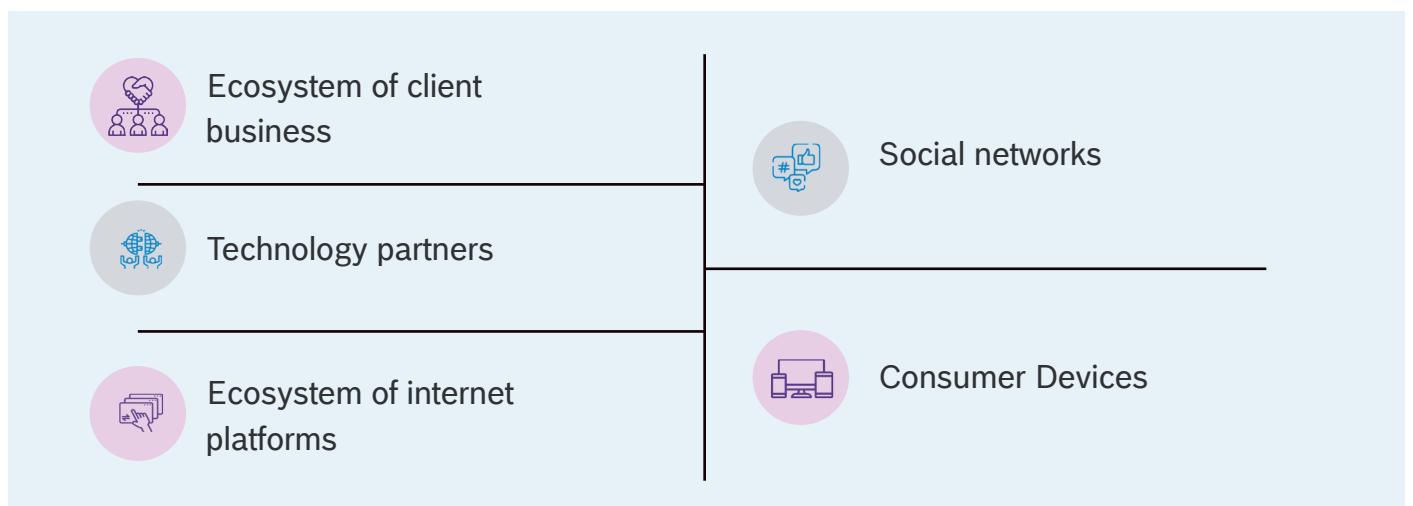
Key Areas where AI plays a huge role to enable Higher Customer Experience	AI Applications and Use Cases to enable seamless CX	Value Additions
<ul style="list-style-type: none"> ✔ Customer Insights and Mining 	<ul style="list-style-type: none"> ✔ Customer Journey Mapping and Analytics ✔ Dynamic Pricing enabled by Customer Requirement mapping ✔ Next Best Action – Based on Customer’s behavior ✔ Insights based on analysis of social media and Personalized Marketing based on that ✔ Customer Sentiment Analysis ✔ Segmentation and Propensity Scoring ✔ Churn Prediction and Reduction 	<ul style="list-style-type: none"> ✔ Higher Sales – through Personalized Offers and Targeted Marketing ✔ Higher Marketing ROI ✔ Higher Efficiency of Customer Campaigns ✔ Greater Customer Satisfaction ✔ Higher Repeat Business ✔ Higher Profitability
<ul style="list-style-type: none"> ✔ Immersive Customer Experience 	<ul style="list-style-type: none"> ✔ Facial Recognition for critical and value-added services (Device Security, Payments, etc.) ✔ Text Processing and Analysis ✔ Handwriting Detection and Entity Extraction 	<ul style="list-style-type: none"> ✔ Greater Customer Satisfaction and Trust ✔ Higher Efficiency for Repetitive Processes ✔ Fraud Detection ✔ Higher Efficiency - Supplier Management and Contract Lifecycle Management



Approach to operationalize AI-enabled CX transformations

Many brands have already embarked on their digital CX journey towards a single, consistent customer platform that supports the end-to-end customer life cycle – from first contact, customer acquisition, customer engagement to a long-term relationship. To leverage AI within these platforms, AI must be deeply connected with the data, engagement engines and enabling processes required to deliver the frictionless and personalized experiences which consumers expect.

As a starting point, AI can analyze and deliver insights from the enterprise-wide sets of customer data enabled through a digital architecture. The data is expected to contain the following and AI will leverage the same to create intelligent, seamless and transformational CX transformations.



Bosch believes that most brands are now orienting their digital CX transformation journey towards re-humanization of interactions with consumers and there are three areas on how AI can re-humanize interactions with consumers.

CONVERSATIONS WITH BRANDS	ENRICHING CUSTOMER EXPERIENCE	CUSTOMER PROFILING
<ul style="list-style-type: none"> ✓ Communication with brands regarding product enquiries, query resolution, complaints and issue resolutions and general queries ✓ Facial recognition for authentication related applications 	<ul style="list-style-type: none"> ✓ Augment overall customer and employee engagement at various touchpoints which include Marketing, Sales and Customer Service ✓ Immersive experience for mission critical applications like payments 	<ul style="list-style-type: none"> ✓ Customer Journey Mappings and Customer Journey Patterns ✓ Purchase propensity ✓ Churn Prediction and reduction

However, there are two pre-requisites for such an infusion to seamlessly work with a customer platform. They are as follows:

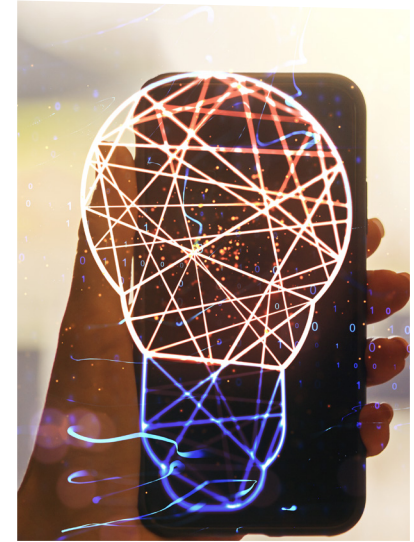
Seamless connectivity with customer data	Data Quality
<ul style="list-style-type: none"> ✓ AI should be able to connect with the customer data, engagement engines and enabling processes, required to deliver personalized experiences to consumers. 	<ul style="list-style-type: none"> ✓ Appropriate data quality checks should be conducted prior to ingesting AI into such platforms, particularly when the platform is expected to support complex customer understanding by machine learning and deep learning.

Salesforce, Adobe, Microsoft, SAP, etc. are a few examples of technology platforms who have started to incorporate AI capabilities (machine learning, deep learning, tools for AI models training as well as pre-trained AI models) into their CX platforms and solutions.



Bosch's digital CX consulting solutions and services

Bosch's Customer Experience Consulting Solutions engage with organizations and help in creating immersive customer experiences which include personalized customer buying and service experience across all customer touch points, including web, contact center, mobile devices, social media, physical stores with better enabled by AI and Machine Learning techniques. We also help companies manage customer data as Single View of the Data across Channels. As a part of our Consulting Services, we enable customers with an assessment of existing CX health, derive areas where AI Can be applied to augment customer experience across channels, CX consulting, road-mapping, architecture philosophy, value mapping, implementation, and ROI measurement.



1.ASSESSMENT OF CURRENT CX HEALTH -



To develop a CX transformation strategy, it's imperative that customers understand their AS-IS position and maturity levels and the journey ahead. We assess the performance of existing CX journeys and related applications and identify essential areas for improvement, along with a comprehensive diagnostic analysis that covers everything from a company's CX strategy, processes, systems, and people. We also deliver a detailed implementation plan for CX transformation.

2.CX TRANSFORMATION PLANNING -



Our Supply Chain Planning helps organizations create and/or refine strategic and tactical plans to enable AI into customer experience and customer lifetime analysis across channels. We bring in agility on plans to reinvent CX transformation using AI as well as focus on delivering an end-to-end blueprint of how technologies like AI, ML, Automation and RPA can be leveraged to deliver enhanced customer experience, reduced cost and realize tangible benefits and business outcomes.

3. TRANSFORMATION



We specialize in applying AI/ML approaches to cross-channel buying/service behavior of customers across traditional and new emerging channels, post integrating all customer facing channels such as retail store, online store, mobile channel, social media with backend order management, product, MDM and CRM applications. The solutions provide strategies, process models, frameworks and software to design, manage, optimize and benefit from end-to-end customer experience using AI.

Our AI Solution Offerings for augmenting CX are as follows:

	Sales Experience	Customer Service
Solution Description	<ul style="list-style-type: none"> ✔ Intelligent Product Recommendations and Cross/Up-Sell ✔ Next Best Action and Next Best Offer 	<ul style="list-style-type: none"> ✔ Email Clearance Automation ✔ RPA and Cognitive Computing
Value Proposition	<ul style="list-style-type: none"> ✔ Increased Sales Revenue 	<ul style="list-style-type: none"> ✔ Faster Resolution Time ✔ Reduced Cost of Service ✔ Higher Customer Satisfaction

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CONTACT

Bosch Global Software Technologies Pvt Ltd

India | USA | Europe | UK | Japan | Middle East | China

For more information, send your enquiries to connect.bgs@in.bosch.com

