AI Powered Personalized Marketing
Introduction

The power of technology is changing the current scenario in today’s era. While the consumer’s expectations are growing at rapid pace, industries are also undergoing metamorphosis thanks to new age digital technologies. Digital transformation helps improve consumer experience and operational efficiencies. Some of the trends on this front include personalization, augmented and virtual reality solutions, in-store analytics, which help provide timely assistance and relevant information to a consumer at the right time. Businesses have tons of digital data, waiting to be harnessed. While data is termed as the new oil, deriving meaningful and actionable insights is an important need of a business. This, coupled with evolving new regulations for data privacy and concerns of the digital users across the globe, it becomes imperative for new age solutions to respect and protect data privacy of the users. Data management and governance play a key role in new age offerings.

We at Bosch take pride in providing solutions to these challenges of this fast-paced digital world. One can experience these Bosch solutions for better understanding of consumer behavior & providing a unique experience to the clients. We combine indoor positioning, behavioral analytics, artificial intelligence to provide improved customer experience at a physical location.

Current Scenario & Transformation In Digital Domain

**Chart 1: Findings of a survey on plans around new age technologies**

- **70%** plan to invest in *Internet of Things* in Retail
- **57%** Commented that *Automation* In inventory tracking, packing and transportation is a must
- **75%** Say the key to enabling a better customer experience in-store is to incorporate as many technologies such as *AR/VR*
- **68%** Said that *Machine Learning & AI* is integral to improving customer experiences
- **86%** Plan to increase their investment in *Data Analytics*
Need For Personalization

Personalization is an important factor to continuously enhance consumer experience and hence investing in a digital technology has become imperative for a consumer facing industry. It helps in understanding the consumer’s profile better to deliver better recommendations and in turn helps in improving the overall customer experience in content personalization, targeted ad delivery in digital marketing and to focus on aspects revolving around loyalty.

Diagram 1: Personalization Curve

The major driver behind these personalization efforts are:

- Proliferation of IoT, analytics, indoor positioning systems and connected sensors
- Growth of smartphones adoption, affordable internet, online shopping and social media
- Consumer demand for personalized customer experience
- Current personalization capability is at population, segment, micro segment level
- Customization as a practice has already been initiated across several industries

Personalization Index

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<th>Opportunity for Personalization</th>
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<td>Medium</td>
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<td>2.</td>
<td>Time</td>
<td>Medium</td>
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<td>5.</td>
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Diagram 1: Personalization Curve
This curve is arrived by plotting user experience vs the opportunity of personalization being enabled for them. The scale for user experience is from -5 to +5, -5 being point of irritation and +5 being point of excellence.

The scoring is such that at any given point of index score there are methods to enable a better user experience by changing the opportunity of personalization with a focus on the user.

The ways to enhance user experience is to provide personalization with a view of the context such as location, time, social media, emotions and other higher value parameters, which can be used for enhancing customer delight.

At the point where personalization provides a positive customer experience is called “Point of Influx”.

When a customer reaches this point, his experience can be enhanced further so that he moves towards “point of excellence” or a negative effect can pull him down towards “point of irritation” which means the user is dissatisfied because of excess of getting too personal instead of getting the right amount of hygienic personalization.

Influx point is also a measure to understand whether the customer wants more value created for which we need to give him better personalized and relevant recommendations at the right time.

Traditional marketing can be applied until users have reached the “Point of Influx”, post which Context Based Personalization recommendations are necessary, keeping various factors in mind such as location, time, social media, emotions, etc.

Once the point of influx is reached, we need to use analytics to ensure the area of opportunity always scales up to Point of Excellence and Customer delight.

As seen in the diagram, using a Personal Assistant will ensure a very high consumer experience by understanding the user behavior and providing the right recommendations at right time and right place.

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**Points of Excellence**

- Relevant information at the right time
- Creating Wow moments
- Unplanned buying decision leading to higher conversation rate
- Unexpected value creation by buying same items at a lower price
- Enjoying personal touch and attention
- Simple and helpful Ads being displayed on consumer’s screen
- Discounts and offers given are for a higher value which create higher savings for customers
- Personal assistant, a very simple to use and understand, trustworthy & helpful

**Points of Irritation**

- Annoying and vague recommendations displayed
- Too many unnecessary ads
- Lots of personal information of consumers going out
- Offers / discounts not adding much value to the customers requirements
- Offers / Ads are not in tandem with customer’s current mood
- Privacy issues, law suits, GDPR issues, people not feeling safe with data being shared on public forums

*Chart 2: Factors leading to Points of excellence and Points of irritation*
Opportunities for actionable insights for enterprises:

Segmentation and Personalization

Segmentation and personalization are interdependent on each other. Without segmentation of the target audience, one cannot decide the kind and opportunity for personalization to be used. Personalization and segmentation are often used interchangeably. While segmentation attempts to bucket prospects into similar aggregate groups, personalization represents the ultimate goal of customizing the person’s experience to their individual needs and desires based on in-depth information and insights about them.

Segmentation: It is a one-to-many perspective & focuses on grouping similar user behavior, user attributes or user properties for large scale personalization.

Personalization: It is a first person perspective which focuses on leveraging data analysis and data technology to deliver individualized messages and product offerings to current or prospective customers.

As seen in Chart 4, the depth of personalized experiences depends on user data, creating segments out of it and personalizing the message, giving it a first-person perspective. Customers expect personalization as they have lost their tolerance for marketing messages.
that aren’t immediately relevant to them. They expect content, messaging, and experiences to be tailored to their interests. They expect brands to know them individually, not just their demographics.

The different types of Market Segmentation are:

**Geographic Segmentation**
This type of market segmentation is important for the marketers as people belonging to different regions may have different requirements. People belonging to different regions may have different reasons to use the same product as well.

**Demographic Segmentation**
Demographic segmentation divides the market on the basis of demographic variables like age, gender, marital status, family size, income, religion, race, occupation, nationality, etc. This is one of the most common segmentation practice among the marketers.

**Behavioral Segmentation**
The market is also segmented based on audience’s behavior, usage, preference, choices and decision making. The segments are usually divided based on their knowledge of the product and usage of the product.

**Psychographic Segmentation**
Psychographic Segmentation divides the audience on the basis of their personality, lifestyle and attitude. This segmentation process works on a premise that consumer buying behavior can be influenced by his personality and lifestyle. Personality is the combination of characteristics that form an individual’s distinctive character and includes habits, traits, attitude, temperament, etc. Lifestyle is how a person lives his life.

Keeping all the above factors in mind, we can personalize the experience for any customer. 1-1 (One to One) marketing is the new approach taken by marketers for improving marketing efforts by actively tracking and responding to consumers. This means consumers can be targeted in the most relevant manner.

The various avenues could be featured events, a company website, social media sites, emails, blogs, videos and other forms of content, allowing the marketers to cater to the consumer’s needs. This is quite critical to run a successful campaign.

**Revenue Potential of Customer Experience**
As we move towards 1 to 1 personalized marketing from segmented marketing it is found that the potential for revenue generation per customer increases. Below are a few key points on how Personalized Marketing is different & more effective from Generic Marketing:
### Generic Marketing vs Personalized Marketing

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<th>Generic Marketing</th>
<th>Personalized Marketing</th>
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<td>Segment based personalization</td>
<td>1 to 1 personalization</td>
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<td>Relevance based on segment</td>
<td>Relevance based on individual</td>
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<td>Customer preference captured in silo</td>
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<td>Personalization based on user behavior with/without consideration to context</td>
<td>Personalization with consideration to context</td>
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<tr>
<td>Probability of business conversion is low to medium</td>
<td>Probability of business conversion is medium to high</td>
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### Segmentation and Personalization

The proximity marketing market is expected to be worth USD 52 billion by 2023 at a CAGR of 28% between 2017 and 2023. The current marketplace is expected to be driven by the heavy demand for personalized location-based services. The commercialization of personalized location-based services is on the rise. The combination of location-based data and existing personal data creates rich and contextualized user experiences. In addition, the increased use of beacons and growing availability of spatial data & analytical tools further propels the growth of this market.

The diagram below depicts the advertisement spend on proximity marketing:

**Proximity marketing is expected to account for roughly 36% of the mobile ad spending by the year 2020. Advertisment spending for Proximity Marketing is expected to grow at a CAGR rate of 21.5% (2016-2020).**

**Proximity Marketing Market is expected to grow to approximately USD 52 Billion by 2023, at 28% of CAGR between 2017 and 2023.**
IERO works with business and help them in providing personalized experience to the end users for various domains such as Mobility, Retail and Hospitality. IERO understands the value of personalization for the overall customer experience that leads to increase in customer stickiness further improving the overall revenue for the business.

In this digital era, retailers have multiple touch points such as eCommerce, social media, Email, CRM and brick & mortar to manage and provide personalized seamless experience. IERO aims to provide unified view of the customer and provide a complete omni-channel experience. With the help of AI and Machine Learning, IERO understands the user behavior and enables business to predict the next purchase and provide relevant recommendations and offers at the right time and at the right place, thus enabling business to upsell and cross sell the items strategically and increase the average bucket size.

IERO aims to provide personalized experience not just when you are at store but also when you are on the move. IERO partners with OEMs and Mobility players to provide an enhanced customer experience to the end users. Thanks to Machine Learning, personalization gets incorporated by using real time behavior of the user in amalgamation with the context such as Location, Weather and in car data.

It is imperative for enterprises across industries to break the clutter and reach their users in an effective manner while retaining their identity and providing enriched experience and also not impinging on their privacy. Some of the industries with high potential to achieve this digital transformation.

IERO
IERO is a unique entrepreneurial venture from Bosch focusing on providing 1:1 personalization powered by its Artificial Intelligence (AI) Engine. This next big jump in technology will help enhance user experience across domains such as retail, mobility, hospitality & other consumer-centric domains. IERO brings the benefits of the digital world to the physical space to enable new user experiences. We at IERO are currently focusing on creating value for enterprises by enriching the consumer experience through privacy centric context-based personalization.
IERO’s state-of-the-art technology combines the power of context and individual user preferences in delivering a new-age user experience. Our contextual recommendations engine integrates user preferences derived from multiple sources including purchase history, app usage, fine-grained behavioral indicators based on location, time and other factors to create an insightful 360-degree view. Such enriched insights help in personalizing the user experiences.

**Powered by Bosch**
Redefine journeys with interactive experiences of user assistance and recommendations

**Positioning Technology**
- Our technology helps interpret the physical space to enhance the customer’s journey

**Contextual Recommendations**
- Understanding customers and engaging with relevant recommendations customized to the moment.

**Actionable Insights**
- By understanding spaces & customer choices, we provide you with enriched insights that help you create a positive impact.
We enable businesses to engage their users at the right moment on a one to one basis and empower them to make informed decisions. The proximity marketing software market can be segmented on the basis of component, technology and application.

Proximity marketing market consists of Wi-Fi, BLE beacon, near field communication, GPS based geo-fencing among others. GPS based geo-fencing enables users to enhance their business by sending push notifications to the people who are into close proximity of their store. The increasing importance on business intelligence and growing competition in various sectors is boosting the proximity marketing market. The increasing adoption of smart-phone and development of analytical tool is one of the significant factor driving market growth.

Most retail stores are using GPS geo-fencing application to increase customers in store, this is one of the significant factor driving market growth. Beacons allow advertisers to deliver customized messages on-site aimed at improving the shopping experience. Message customization is done on consumers' preferences, previous shopping habits, location, and other data. With the help of beacons, messaging is woven into the larger customer experience, creating both interactive and relevant messaging—all at the time of purchase. Beacons are small indoor positioning devices that use low-energy Bluetooth (BLE) to communicate with a shopper's smart-phone in the hopes of improving the in-store shopping experience.
USE CASE - Retail Redefined

Engage your consumers better!

**Consumer expectations**

What do end consumers expect from new-age digital technologies?
1. Right Recommendation at the Right Time and Right Space
2. Enhanced & Enriched Experience

**Next Generation Retail powered by IERO**

1. Personalized Proximity marketing powered by IERO AI Engine
2. In-store navigation and product search powered by IERO IPS (Indoor Positioning System)
3. Hassle free checkout – digital payments, self-checkout
4. Virtual E-kart
5. Actionable insights through heat maps, consumer analytics and many more

Illustration of IERO offerings:

- **Search and Navigate:** The diary section
- **Quick Assist:** Is there a Jalapeno variant in Cheese
- **Loyalty:** Platinum customers get 200 points on a bill amount of Rs. 2500 or more
- **Promotion:** Avail 20% off on all Bread Products today
- **Membership Discounts:** Gold customers avail 15% off on all the Laundry & Home Care Products
- **Recommendation:** Would you like some jams to go with the bread

IERO Solutions Across A Retail Consumer’s Store Journey

1. Trigger for Shopping
2. Shopping list ready
3. Entry
4. Trolley Pick-up
5. Shopping
6. Checklist check
7. Exit
8. Billing Counter
9. Check Offers, Discount, Price
10. Unloading Trolley

IERO Offerings:

- **Mobile Shopping List**
- **Personalized Offers and Recommendations**
- **In-Store Campaigns**
- **Mobile Self-Checkout**
USE CASE - Mobility Redefined
When the Journey Matters more than the Destination!

Consumer expectations
How to make journey more relaxing and provide interactive experience?

Next Generation Mobility powered by IERO
- Guidance during emergency, suggesting nearest service stations based on the real time location.
- Error detection and monitoring of brakes, battery, sensor and exhaust related errors.
- Content personalization such as music, news, sports with relevant recommendations
- Context based personalization for in-vehicle transactions including online purchases, information and ad recommendations.

Illustrations of personalized marketing for mobility

- Fly Airlines and get offers on stay at Hotels
- Shop at Outlet and get 2 coffees at Cafe free
- Get in-store offers. Upto 10% off on cameras.
- Buy a Frappe and get a Vanilla cappucino free
- Buy Jewellery worth INR 10,000 and get 14.5% discount on your next purchase
- Upgrade to a suite and enjoy a dinner on the house
- 10% off on your next shopping trip
- Improve your drive rating to get offers on your next service
IERO Enables Enterprises


To know more visit http://bosch-iero.com/

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About RBEI

Robert Bosch Engineering and Business Solutions Private Limited is a 100% owned subsidiary of Robert Bosch GmbH, one of the world’s leading global supplier of technology and services, offering end-to-end Engineering, IT and Business Solutions. With over 19,500 associates, it’s the largest software development center of Bosch, outside Germany, indicating that it’s the Technology Powerhouse of Bosch in India with a global footprint and presence in US, Europe and the Asia Pacific region.

References