Hyper Personalization

Why Is It Important & How Can It Be Implemented.

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Introduction

When was the last time you did some shopping online? I'm quite sure the answer wouldn't go beyond maybe a week back or so. Now, ask yourself which websites or apps do you use the most for your online shopping needs? Amazon, Walmart & let's add Alibaba to the group. Most of us centennials, millennials to as old as members of gen x, all majorly rely on these online e-commerce companies for products ranging from electronics as high as $20,000 to mere toothpicks worth $2. Yes, the ease of access, the range of products, delivery options, etc. all play a big role behind this. But, the main reason why we can say that over the last 16 years we have gotten <u>addicted</u> to online shopping, is Hyper Personalization.

See, when we feel like taking a break from our days, & scroll some of the products that we have been planning to buy for quite some time now on one of these apps or websites, what we are doing is basically feed them data on our preferences, likes, dislikes, even our shoe size for that matter. But, we all are well aware of that as Data Science students. What we don't know is what these companies choose to do with that data. How we are fed campaigns that so accurately targets us & how a customer is taken from thinking to buy a fine set of Chelsea Boots in January, ends up buying it November itself.

A lot of us sometimes feel exposed to these companies, questioning the ethics behind extracting such levels of personal data but do ask yourself how it felt when one fine day you received a promotional email, not just addressing you, but also giving you that promotional discount you've been longing for to buy that sweet pair of Jordans which were actually $100 away from you. Didn't it make you feel good? Empowered? Would you not go back to this particular website for all your requirements hereon? Hyper Personalization not just increases a company's sales but works TREMENDOUSLY in establishing goodwill, increasing loyalty & thus retention, one customer as a time.

Simone Puorto, founder & CEO of Travel Singularity (a firm that helps hoteliers with Tech Disruption) once mentioned, "Hyper Personalization is the new Direct Booking." In this paper we would try to understand what Hyper Personalization is, how it is different & more prevalent from Personalization & in the end, we will do a case study on "Artificial Intelligence Powered Hyper Personalization with Liferay" – presented at Liferay DEVCON 2018.

What is Hyper Personalization?

Before we can jump into what Hyper Personalization is, we need to understand what its predecessor is, <u>Personalization</u>.

With the type of market we have today, delivering contextual customer experience is no longer "nice to have"- it's an expectation. Even though we barely open or even delete more than half of the promotional mails we get on a daily basis, imagine if these promotional mails were not even addressed to you directly. How will that look on the reputation of that particular company? Wouldn't they seem new, inexperienced, basically novices in this cut-throat market? Now remember a time when this seemed like a digital revolution. Don't worry, you wouldn't have to think that far back. Not much earlier, we would get excited by this but today, personalization means much more than that. It means offering custom tailored experiences to customers that would keep them engaged. Doing this is no joke, but essential to keep up with today's tech savvy consumers.

Consumers today want to feel like brands remember them, listen to them - make them feel important & pay close attention to what the consumer wants. This is where Personalization comes into picture. It is a method of custom tailoring messages, promotions & experiences based on the individuality of the particular consumer. It provides a leap from cold marketing communications to meaningful digital conversations where data is working as the mediator to build that connection between the business & the consumer. This is done by collecting, analysing & efficiently using information about consumer demographics, interests & behaviours & applying it to create personalized campaigns, content & experience that is relatable & thus, most effectively communicable to the target consumer.

"91% of consumers are more likely to shop with brands who recognise, remember & provide them with relevant offers & recommendations"

-Accenture survey, 2018

In today's age, this has become a pre-requisite simply because consumers have become accustomed to getting what they want, & they will NOT settle for anything less.

This task of keeping the consumer engaged falls on the shoulders of the marketeer in entirety. Marketeers must use this precious data to generate insight & build strategies that keep consumers engaged at every step of their journey. What this means is that marketeers need to perform this in real time, be up to date with consumer requirements, wish-lists, price bracket etc. & make changes to their strategies & campaigns regularly. This is where Hyper Personalization comes into picture.

Maintaining Boundaries!

Hyper Personalization is a more advanced next step to personalized marketing where it leverages Artificial Intelligence (AI) & real-time data to supply more relevant content, product, & service information to every user.

Does that sound scary? Before we head to why Hyper Personalization is important for businesses, let's briefly visit an aspect which majorly concerns the consumer & just use of the data it provides.

"A little space, time, & distance can often be just what a relationship needs to bloom at its best."

-Karen Salmansohn

Keeping in mind the level of information consumers feed us in order to receive that personalized experience, businesses have to make sure they keep it graceful & not turn creepy & overly invasive with their practices. There are methods to show that the company understands the consumer & adheres to the consumer's unsaid expectations without crossing the creep-line. For example, if the data shows that a particular customer has been looking for good furniture for his/her living space, Walmart could improve the customer's experience by showing couch or coffee table recommendations rather than completely turning into an IKEA website. When reaching into a customer's personal space, more isn't always better. Businesses need to listen intently to what the consumers are trying to put across, but use extreme appropriation while building campaigns personalized to the consumer's experience.

Personalization vs Hyper Personalization

Businesses understand the importance of personalization & yes, personalization does a great job in catching the attention of your target audience. And why not? Consumers are inclined to pay attention if businesses address them personally, wish them on their important dates such as birthdays, anniversaries etc. Send them limited time offers for these special dates. But personalization can only go as far. In order to really engage with the target audience & get the best results, businesses require to use Hyper Personalization.

To explain the difference better, let's look at an example. Stephenie Mialki of Instapage explains:

"Personalization may include advertising winter weather gear to consumers who purchased similar gear online the year prior.

Hyper-Personalization, on the other hand, could include advertising that same winter gear with optimised ads based on the exact purchase location & time, payment method, coupons used, social media activity & more."

Personalizing online interfaces, tailoring product recommendations, increasing the relevance of shoppers search results, & providing immediate & useful customer service – these new modes of personalization are not only powered by consumer data, but AI. [Ventura, L(August 5, 2020), All You Need to Know About Hyper Personalization in Marketing, Retrieved from https://learn.g2.com/hyper-personalization]

All in all, even though Hyper Personalization presents great options for businesses who want to adapt to their smart, empowered & educated customer database, & keeping personalization & consumer segmentation in mind, Hyper Personalization uses these principles but takes things one step further, we should keep this in mind that be it Personalization or Hyper Personalization, customer bracketing is important in order to determine the effectiveness of the campaign businesses push. The main issue with Hyper Personalization is keeping the data up to date for the numerous segments of consumers businesses want their content personalized for. No matter if businesses design content as per customer demography or buying stage or both, such content requires to be modified for each distinct scenario.

**So how do we go about Hyper Personalizing our content?**

On an average, consumers engage with anything & everything they see for a maximum of 8 seconds. What this means is that businesses have mere 8 seconds to capture the attention of consumers & persuade them to engage with the business for longer & maybe generate some revenue in the process. To do this, the content needs to stand out of the crowd & attract the eye of the consumer momentarily.

According to an anonymous survey, "Information overload is tuning out customers, since user engagement with content has decreased by 60%."

On the other hand, Google survey concluded, "Best search phrases have increased by 80% on mobile devices in the last 2 years."

The attention span of consumers has decreased drastically over the last decade & businesses have no other option but to adapt. An Accenture survey states, "75% of customers would more likely buy from companies whose offerings are personalized according to individual preferences."

There is a reason why brands like Starbucks, Amazon & Spotify are leading their particular markets.
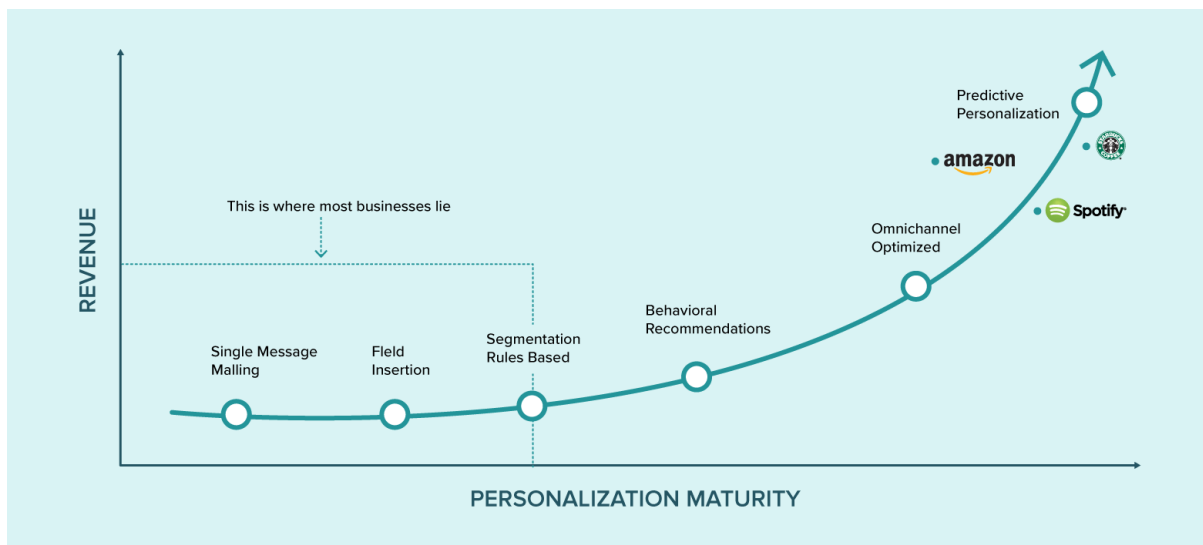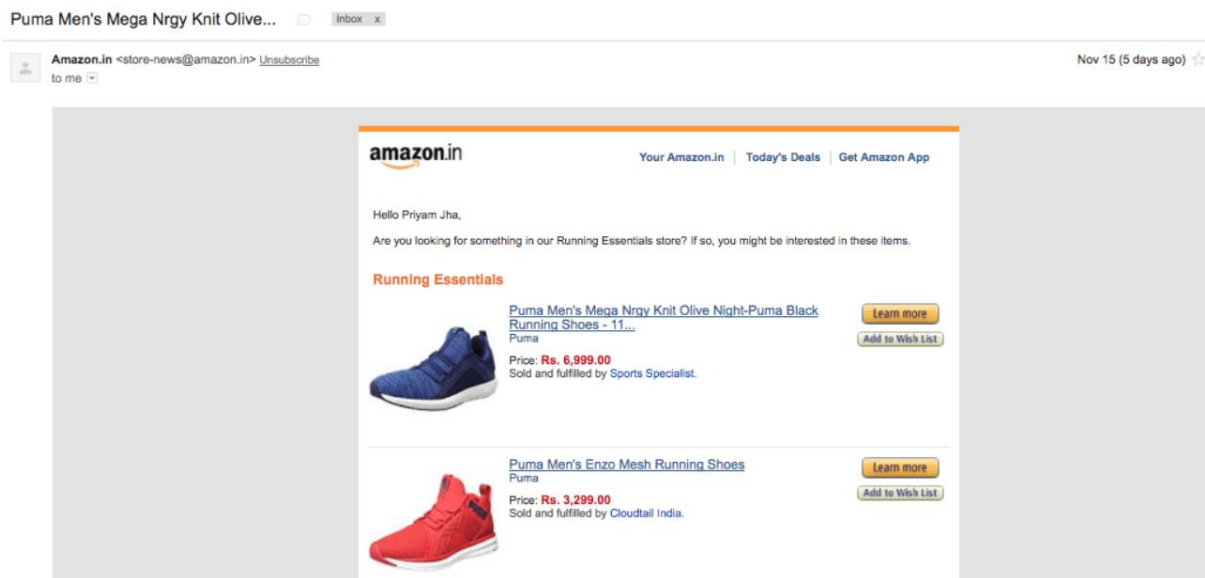

[Jha, Priyam (October 30, 2019 | Last updated: September 20, 2020), Why Hyper-Personalization Is The Future Of Marketing (And How To Do It), Retrieved from https://webengage.com/blog/hyper-personalization-marketing-future/]

Referring to the graph above one must notice the bracket where most businesses lie, & the level of advancements companies like Amazon, Starbucks & Spotify have incorporated in their marketing models. These top brands incorporate predictive personalization, where AI & Machine Learning use a set of numerous varied factors to power their recommendation engine. On the contrary, what most businesses restrict themselves to is customer segmentation thus limiting their own business horizons.

Let's dive deeper into how these top brands do what we assume that they do:

Amazon:

Amazon stands on top of the E-commerce market today, with their recommendation engine shouldering 35% of their conversions. Priyam Jha, Lead – Brand Marketing, WebEngage conducted an experiment on Amazon where he was scouring for Olive Green Running Shoes, but left his search mid-way & closed the website. Soon after, Amazon sent him this email:

[Jha, Priyam (October 30, 2019 | Last updated: September 20, 2020), Why Hyper-Personalization Is The Future Of Marketing (And How To Do It), Retrieved from https://webengage.com/blog/hyper-personalization-marketing-future/*]*

If we notice here, the email is not just personally addressed to Mr. Jha but it goes one step ahead recommending him options for "Running Essentials" showcasing Puma shoes. (Mr. Jha mentions that he has purchased Puma footwear in the past from Amazon)

Few points that can be broken down by this is that Amazon has access to:

- Full Name
- Search Query
- Average time spent on each search
- Past purchase history
- Brand affinity
- Category browsing habits
- Time of past purchases
- Average spend amount

for the least.

Using this, Amazon could have pushed a highly contextual email recommending "Olive Green Puma Shoes." But this is where even the professional boundaries come into play refraining the company to cross that creepy-line as discussed before in this paper.

Amazon's recommendation engine is called 'item-to-item collaborative filtering' containing 4 major data points:

- Previous purchase history
- Items that a customer has in his/her shopping cart
- Items that a customer has rated or liked
- Items that other customers have liked & purchased

This results to Amazon having a 60% higher conversion rate from on-site recommendations compared to other E-Commerce brands.

Starbucks:

To get an even better understanding, let us look at another top brand Starbucks, swooping customers in its market since 2008 when they launched their Loyalty Program.

Starbucks today has an extremely advanced personalization game which is powered by their AI. An internal survey concluded that Starbucks AI system, using real-time data, can send over 400,000 variants of Hyper-personalized messages. Among these 400,000 messages, each message is unique to each user's preferences, based on their activity & past purchases.

Starbucks Loyalty program encompasses over 13 million 'loyal' users. The application feeds its consumers highly personalized food & beverage suggestions though an AI-based algorithm which analyses past purchase history, taste & preferences to come up with such personal recommendations for each customer in their database. This highly efficient system includes engaging personalized games on email & mobile application for their loyalty program members.

The Starbucks app regularly sends in-app transaction messages with reward details to its customers. On top of this, they also inform users about the closest stores that accept Mobile Order & Pay option. *(refer to images on the next page)*

What all this corresponds to is an increase in their marketing campaign effectiveness by 300%, increase in email redemptions by 200%, increase in incremental spends via offer redemptions by 300% & a total of 24% of company transactions happening via their mobile app. [Profiting from Personalization (May 08, 2017), Retrieved from https://www.bcg.com/publications/2017/retail-marketing-sales-profiting-personalization#9-11110-1]
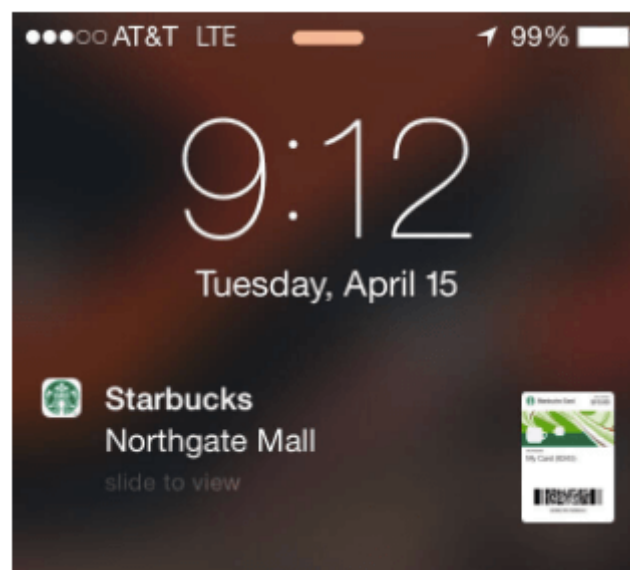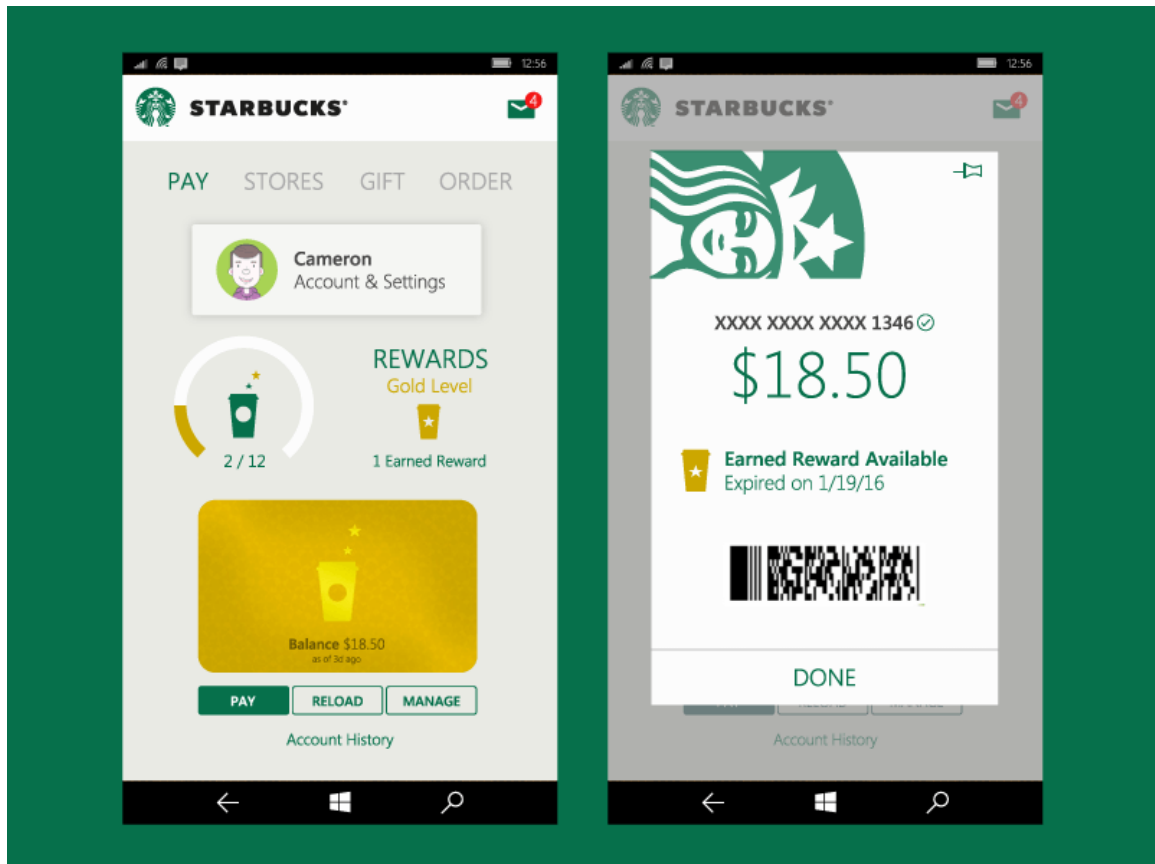
[Jha, Priyam (October 30, 2019 | Last updated: September 20, 2020), Why Hyper-Personalization Is The Future Of Marketing (And How To Do It), Retrieved from https://webengage.com/blog/hyper-personalization-marketing-future/]

So how do businesses use all these learnings to their advantage & build their own Hyper Personalized System? Few survey results that can support business's marketing strategy:

[Lebo, Todd (2019), Hyper Personalization: What it is & why you need it in your 2019 marketing, Retrieved from https://www.convinceandconvert.com/research/hyper-personalization/]

- Become an early adopter of Hyper Personalization: In a survey in was concluded that only 9% of marketing professionals use a completely developed hyper personalized strategy whereas the majority 62% are still in discussion of adopting it. Businesses should become an early adopter of hyper personalization & get ahead of the competition.
- Make a difference in what matters the most: The improvisation of customer experience & application of data insights to decision making, hold top priorities of 60% & 51% of marketing professionals respectively. Businesses should in general keep a close note of their top priorities as they create their hyper personalization plans & strategies.
- Choose the most effective application for your hyper personalization strategy: The most used & most effective AI powered applications in hyper personalization is predictive analytics covering on an average, 56% of the overall strategy. If businesses need to find a place to start then they can refer to research done on various strategies & choose what fits best for their scenario & work on that.

One can imagine endless possibilities where businesses can hyper personalize their content. Basically at every step where data is processed & the outcome is a PDF, an image, or a printed document that could be delivered instantly to a lead/customer, personalization can be implemented. Some areas where businesses can Hyper Personalize their content are:

- Create quotes or financial offers
- Invitations to events, seminars, trainings
- Event tickets
- Analytical Reports
- Brochures
- Guides
- Case Studies
- Checklists
- Posters

This content personalization works across industries such as E-Commerce, Online Streaming, Hospitality, Fintech or Travel.

Diving deeper into what type of attributes can be, which can help us personalize content on an individual consumer to consumer level:

[Jha, Priyam (October 30, 2019)]

User Attributes			
Age	Location	Gender	Membership Status
Device	OS	Name	

User Attributes remain the same be it any of the above mentioned industries.

E-Commerce:

Behavioural Attributes		
Brands Viewed	Price Filter/ Sort applied	Browsing time
Preferred Message Medium	Product viewed	Added to Cart
Abandoned Cart	Size Searched for	Search Query

Past Purchase Data		
Average Spend	Discount Coupon Applied	Color Preference
Quantity Purchased	Purchase Data & Time	Device used for purchase
Size Preference		

Online Streaming:

Behavioural Attributes		
Search	Media Category Filters	Trailer Played
Add to Watchlist	Reviewed/Rated	Stream Count/Frequency
Language Preference	Add to Playlist	

Past Purchase Data		
Add to cart	Date & time of Purchase	Subscription Renewed
Device used for purchase	Payment Method	Artist/Movie Preference

Hospitality:

Behavioural Attributes		
Search	Hotels Viewed	Area Filters
Hotel Price Range	Hotels Reviewed	Checkout Completed
Discounts Availed	Number of Guests	Guest Details
Nature of Stay	Added to Cart	Cart Abandoned

Past Purchase Data		
Money Spent on Accommodation	Dates of Booking	Payment Method
Purchase Time	Device used for booking	Room Size/Details
No. of Rooms Booked	Hotel Booked	Brand Preference

Fintech:

Behavioural Attributes		
Add to Cart	Search	Applied for Quote
Request for Callback	Newsletter Signup	Clain Requested
Claim Settled	Applied for Card / Insurance / Loan	Email Click
Notification Click	Offers Utilized	

Past Purchase Data		
Insurance purchased	Insurance renewed	Card Purchased
Card renewed	Premium Paid	Recharge Completed
Wallet Recharged	Amount of Recharge	Service Provider details

Travel:

Behavioural Attributes		
Flight Searched	Flight Selected	Date Range Filter
Origin & Destination Filters	Add to Cart	Travel Package Click
Checkout Completed	No. of Travellers	Route Preferences
Flight/Train Time Filters	Message Interaction	On-Site CTA click
In-App Message Click		

Past Purchase Data		
Flight Booked	Amount Spent	Frequent Origin + Destination
Preferred Mode of Transport	Time of Booking	Device Used for booking
Mode of Payment	Offers Availed	

The above only provides a peek into the numerous possible ways businesses can know their consumers better. Businesses can modify attributes as per their requirements regularly or in real time, & identify parameters that effect their engagement with the consumer the most.

Conclusion

We have seen & discussed in extreme detail, the importance of Hyper Personalization & why it is the need of the hour. We have also discussed few of the uncountable number of ways Hyper Personalization can be personally strategized for each & every business or business type. We will even see a proof of concept Hyper Personalization Engine built by Accenture in association with Liferay, later in this paper after this section.

But one challenge that remains unaddressed & probably is the biggest question every business will have, that the collection of data for hyper personalized campaigns manually is obviously an extremely exhaustive task. With the number of categories & segments consumers are divided into, real time comparison, keeping track of, setting goals for & making sense of this data is very hard. The solution lies in AUTOMATION.

Businesses require an advanced platform that collects data for them in the form they require it to be collected automatically. Once businesses have the data, they again require automation to figure out the most effective manner in which content could be strategized & campaigns could be planned. These advanced platforms could also automate the hyper personalization of content & campaigns on the basis of real time user engagement.

In conclusion, Hyper Personalization is the need of the hour & businesses need to adopt it as early as they possibly can, but this adoption needs to be done in an automated manner in order to optimize the cost of time & resources put into Hyper Personalization in the process.

A.I. Powered Hyper Personalization with Liferay DXP

[Rui Lamy, Senior Pre-Sales Global Alliances, Liferay (October 10, 2018), Liferay DEVCON 2018]

[Rahul Mantri, Lead Liferay Practice, Accenture India, Accenture Solutions PVT. LTD. (October 10, 2018), Liferay DEVCON 2018]

This was a presentation given by Mr. Rui Lamy at Liferay DEVCON 2018 on a proof of concept Hyper Personalization Engine built on top of Liferay & other systems by Mr Rahul Mantri & his team at Accenture in India.

"The goal of personalization is to use data to make it easier for people to find & consume what they want, how & when they want, as quickly as possible."

The presentation mentions that Personalization is Data Based (Built on actual information about individuals), Dynamic (Adapting content to changing consumer attributes, behaviour & context), Seamless (Unified across time, location & touchpoints), Unique (Content & options tailored to individual's intent, & In Context (Appropriate to time, location, season & stage of customer journey).

As the concept presented by Mr. Lamy is too vast for the scope of this paper, we will discuss Personalization map Accenture had built a system for which the Architecture Progression can be seen here:
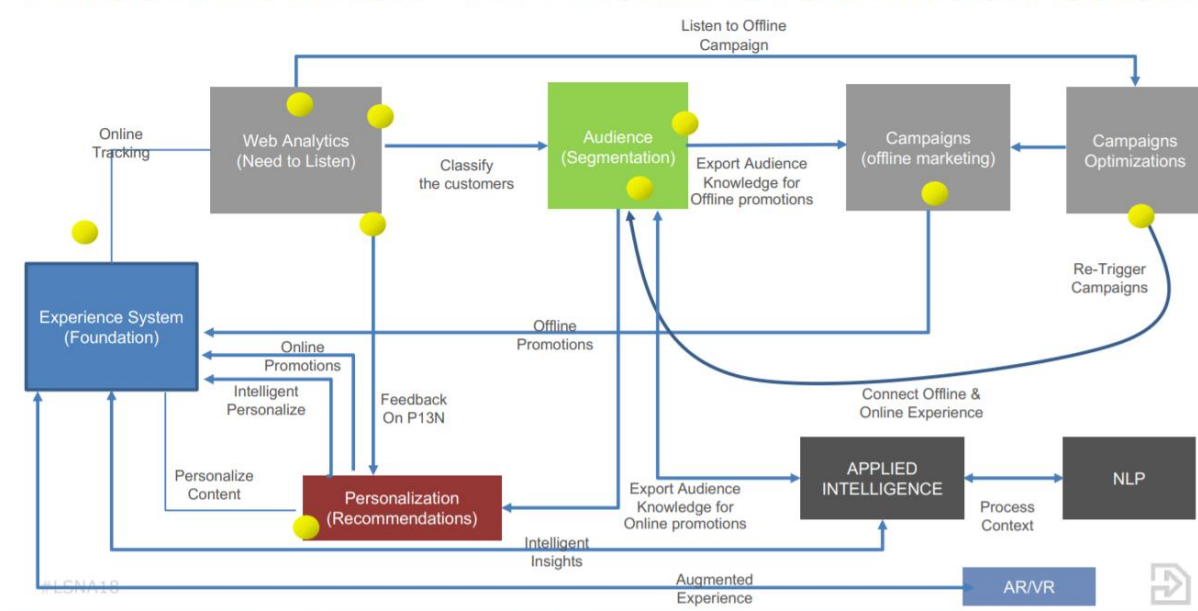
- The diagram maps accurately the priority of the process Experience Systems & how that works as the foundation of this process.
- Initiation of this process being Web Analytics derived from the primary source of information that is the business's website. This majorly concerns listening to the

customer in real time, drafting it as raw data & based on whatever initial insights one gets from the data, one should contribute it to Personalization.

- This data is then segmented as per profile, demographics or any of the other different ways of bracketing the consumer such as history, buying stage, preferences etc. & this segmentation is applied to Personalization.
- The segmented data is then passed on to their particular personalized campaigns or offline channels which is completely a separate entity. This includes marketeers doing email campaigns, notifications on the app, etc. which is completely separated from the website experience. Thus:
    - This directly contributes to Experience Systems.
    - While also feeding that experience to the front end for Optimization of these campaigns.
- Insight from Optimization also leads to influencing the Audience Segmentation in this process so that newer campaigns could be developed for newer, more refined brackets of audience for better Personalization.
- Personalization on the other end, collects all these insights from Web Analytics & Audience Segmentation, & applies it all to Experience Systems.
- Now, while all these channels work in an efficient interconnected manner, businesses would turn to social channels, go get insights from the engagement the user is doing on maybe Facebook, Twitter, YouTube, or even blogs.
- The system would then use Applied Intelligence in order to feed this real time data to the Experience System while Hyper Personalising it. Another contribution that Applied Intelligence will make is to Audience Segmentation again though Experience Systems, by further influencing it in real time.
- In the end, this combined effort of all these channels coming together to strengthen Experience Systems on a whole, also impacts the customer's experience on secondary modes of communication which majorly constitutes channels like AR/VR, wearable technologies like smartwatches, or basically anything else apart from Web or the other channels discussed above.

To build this, Accenture used a combination of platforms, all handing their own pieces of the puzzle this process is. A graphical representation of this can be seen below:

HYPER PERSONALIZED INTELLIGENT EXPERIENCE

THE NEW FRONTIER WHICH CAN TURN EVERY BIT OF CUSTOMER DATA INTO MORE MEANINGFUL CONNECTIONS THAT DRIVE ACTION

- The main part of the system is the Experience as mentioned earlier in the process map also where Liferay serves all the content to the business. Processes like audience targeting & campaign management is also managed by Liferay to automatically create segments & present personalized content to the consumer based on their engagement & the metrics or graphs generated from it.
- Elastic Search is used for making services searchable for the defined audience.
- Accenture used Elastic Path as their commerce engine as Liferay Commerce was not yet launched when this proof of concept was built. Later, Liferay Commerce was embedded into this part of the system.
- The bottom part of the representation concerns the intelligence part of this system.
- Neo4j was used after managing data for graphs & insights to understand the relationship between nodes.
- All this is glued together using AWS Lambda, in this case, is to connect Liferay to the commercial aspects of this system.
- On the other side, R & Python scripts for data intelligence, analysing & manipulating data to discover trends & feed the system new insights.

Regardless of the complex appearance of the process map or the high level of integration to execute it, once understood & embedded into the system, channels could be seen working in complete harmony & create a seamless personalized experience for the consumer.

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