Personalization - An Efficient Technique to Sustain Growth of an E-Commerce and Promotional Websites, Using Emerging Technologies

Mukesh Negi

Sr. Technical Delivery Manager TechMahindra Ltd. Noida (U.P), India

*Corresponding Author: mn246055@gmail.com

Abstract- E-commerce business has surmounted rapidly in the past few years. Flipkart, Amazon, Snapdeal and Shopclues are excellent citation of same. Flipcart was founded in 2007 by two IITn's only, and today it is among the top 3 e-commerce companies over a span of just seven years. Consistent growth of an organization is depend on the robust strategy predestined by the upper management, especially when you have swingeing competitors in front of you. Most of the giant e-commerce companies has adopted emerging IT technologies to align their business for sustainable growth, but still they are struggling in some of the segments, such as Personalization, where customer expectations, likes and dislikes are changing expeditiously day by day [1][2]. Personalization is a technique, where the front page of a website, which also called persona, is portrayed disparately for each customer in pursuance to the products they are interested only. This is one of the best strategy ever, to attract new customers, retain existing one, and to increase e-transactions on a website.

Keywords- E-commerce, E-business, Personalization, Persona, Business Intelligence, and Analytics.

I. INTRODUCTION

In past few years, we have seen tremendous growth in the field of E-commerce and E-business. Some of the startup companies were not able to sustain in the market however, some of them are market leaders in a just couple of years. Success and failure depend on the strategic decisions taken by top level management, along with their adoption of emerging IT technologies for the sustainable growth of business. Attracting new customers, sustain them on website for a while, and then compelled them to do some transaction by buying something is not an easy affair [3]. Even it is just a promotional website and not an e-commerce website, like incredible India initiative taken by Ministry of Tourism, Government of India, attracting new customers and sustain them on website for a while is not an easy work. All need some kind of user specific personalization on landing page to sustain them on site. It gives the information about visitors and other related information based on their navigations. Such as, if they are interested in food, or adventure or spiritual etc. Further, integration with some Analytics tool gives an immense picture about a visitor trends like location, buying history, products in which they are interested, products purchased earlier, pages visited earlier etc. which helps to personalize the landing page for each and every customer. Apart from that, customer's profiles also give important data, which help on further personalization by dividing them on segmentations and to promote campaigns. Such as, youngsters between 18 and 25 would be of different, 25 and 35 and 35 and 45 may be of different interest. So even you

don't have their navigational or past purchasing history trends, you can personalize landing page for each by segmentation based on age group. [3]

II. PROBLEM STATEMENT

Even though e-commerce & business moving towards a golden era of personalization, but still there is incomputable number of areas, where lots of improvements and research still required to get maximized benefits of Personalization to increase the business. There is a need to define effective business strategies considering the growth in next few years. The more challenging area is, when you don't have customer's data and not a transactional e-commerce website, but you still want to attract a visitor to get benefits from a different perspective [4]. For example, Tourism website of any country is just a promotional website to attract visitors across the world. Government revenue will increase as many visitors will increase. Hence, it's a critical aspect to design a website in a way, visitors should land on your website and sustain there for a long period. It's only possible once you personalize the website according to his or her interest, otherwise, it's very frustrating to use search every time. Some good tools are available in the market, such as Adobe's AEM along with Marketing Cloud components is the market leader in the field of personalization and content management, but it's not an affordable solution for all. Small and Medium size organizations need some cheap alternate tools and techniques for the personalization. In this paper, I have decoded the real-time personalization, implemented on

Ministry of Tourism, Government of India Website https://incredibleindia.org using Adobe AEM tool along with few more suggestions and areas, where existing tools and technologies can be extended further or new tools can also be developed.

III.   IMPLEMENTATION METHODOLOGY

Implementation methodology depends on multiple factors. It's not necessary a technique successful for an e-commerce website is good enough for the promotional website as well. Both work with a single goal; to generate traffic, conversions, and transactions, but in a different way. Hence multiple ways and multiple techniques are required for personalization based on the nature of the website [5]. Most of the existing tool and software are good enough for personalization of e-commerce website, due to the availability of user profile data as well as historical transaction history, but it's not the case with promotional websites. Even sometimes they don't have and login page, that means no user profile data as well. Now, here the big challenge is to set a persona without any user information. One option could be to maintain the session of the user based on navigational behavior by allocating some unique visitor id to each session. In case user clear the session or doesn't allow the browser to maintain the session information, navigational persona will also be destroying and the user will be landing on the default page instead of his/her interests based earlier navigations on the website [6][7].

IV.   RESULTS AND ANALYSIS

Implementation and examination of Persona on Promotional Website

Incredible India is a campaign from India government to promote tourism in India. Recently the website has been revamped with Adobe AEM and Adobe Cloud Marketing Components like Target, Analytics, and Livefyre. It has no user profile data and it's not a traditional e-commerce website, but still, it's personalized by tracking user navigations on the website [8][9]. This personalization with Adobe Target was tested live, where different travel experiences like Adventures, Heritage, Spiritual etc were personalized based on user navigational behavior by assigning a unique visitor id to each visitor, which was stored in the user session.

Below is the landing page of incredible India website for new visitors.
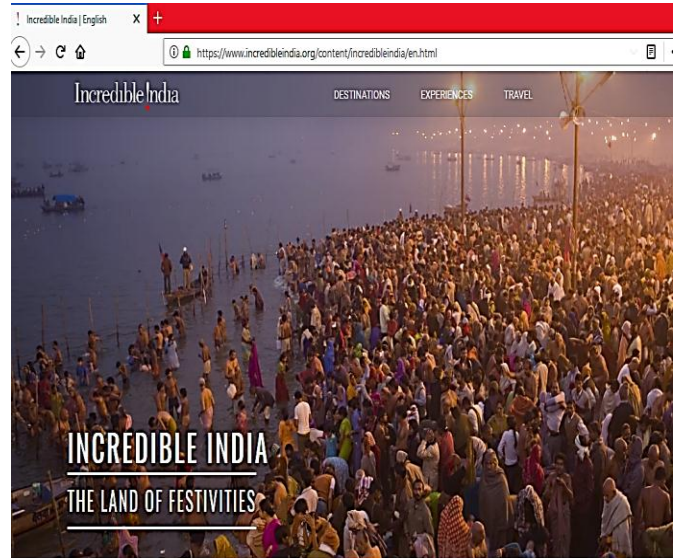

Fig 1. Main Front Website Landing Page

After configuration, to test the personalization, navigated to a particular Experience (Heritage here) and stayed there for a moment, and then navigated on few more heritage pages just for mock testing, to understand that visitors interest. Here the user is interested in Heritage.

clicked on Experience > Heritage, stayed there for few seconds or a minute, then visited few more heritage destinations as shown in the figure below.

Fig 2. Clicked on one Heritage Page

Fig 3. Clicked on another Heritage Page

After few navigations to Heritage pages, when I moved back on Hoe page, it was personalized into Heritage. Earlier message on landing page was "Incredible India", The Land of Festivals". After personalization, it was "Incredible India", Ancient History Comes Alive Here.

Fig 4. Navigate Home page again, personalize as Heritage (Message Changed based on Visitor Heritage Interest, Figure can also be changed)

Persona Testing on Commercial E-Commerce Website
Similarly, when you do some search on google or any social media platform like Facebook, tweeter, then within a seconds you will realize that similar adds displaying on your all social media walls [10[11]. For example, suppose I have done some search for shoes on google, as shown in the figure below:
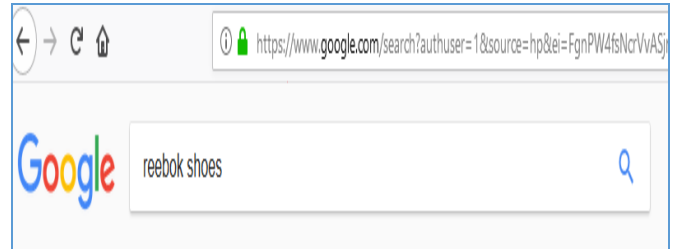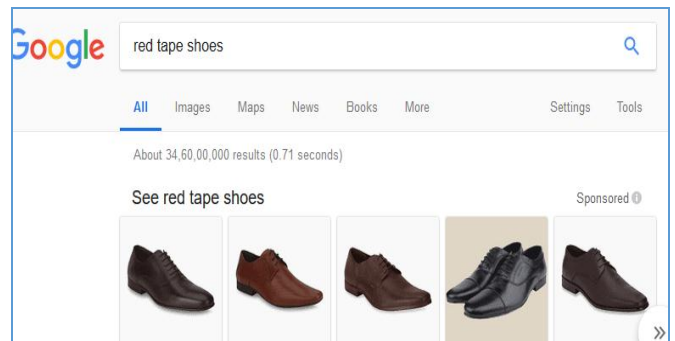

Fig 5. Search for Shoes in Google

Fig 6. Search for Shoes in Google few more times

Then once you will access some e-commercial (here I have accessed amazon.in), then you will see your home page is personalized with similar items instead of with generic items.

Now access any social website or e-commerce website with your account, you will see your front page personalized with the same items (Shoes here). See below Amazon screen, which I have accessed after few shoes search on google [13].
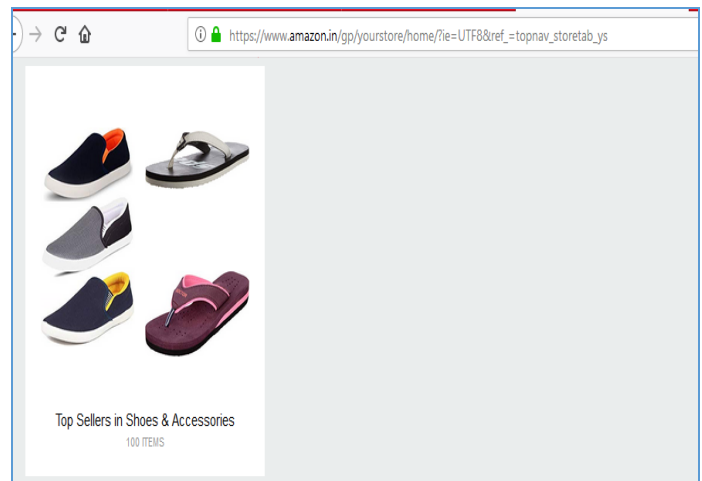

Fig 7. Personalized Page

V. RECOMMENDATIONS FOR IMPROVEMENT

Promotional Website
Capture and save below information. it will give multiple permutations and combinations for personalization's as defined below.

User Session	Capture all information's from Visitor Session
Unique Visitor ID	Create when user access website first time
I.P address of Visitor	Capture I.P address of Visitor
Mapping	Map I.P of the user with session Visitor ID
Location (Country, City, Town),	Capture Visitor Country, State, City, Town
Search text	Capture all searches of particular visitor ID and save
Navigation Page(s) link	Capture all navigations of each visitor and save with Visitor ID

Every time the same user will visit the website, then with the help of visitor ID his/, her persona can be defined based on his previous navigations. Even it can be defined based in his/her I.P address, where earlier navigations saved corresponding to I.P address. Further, even in case visitors will delete the session or access from different browsers, then based on the search history from a particular country, state or town, we can able to identify on which particulate things they are interested [14][15]. Historical transactional data of the user from the website database as well as from Retails.
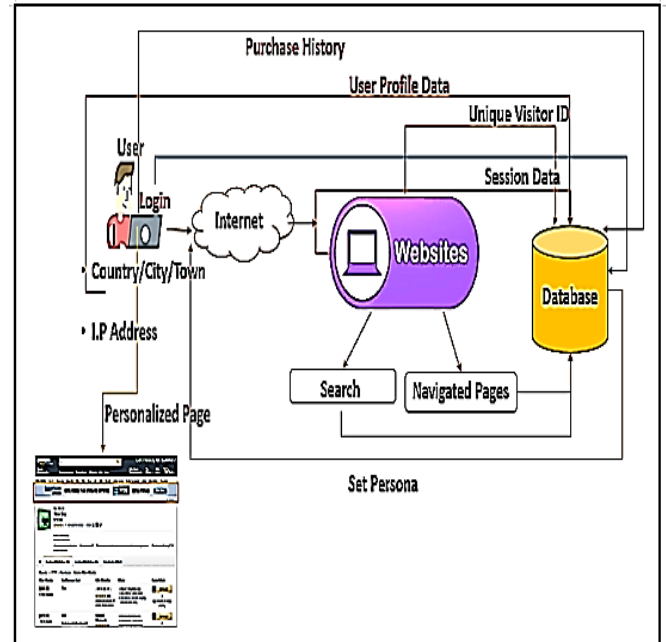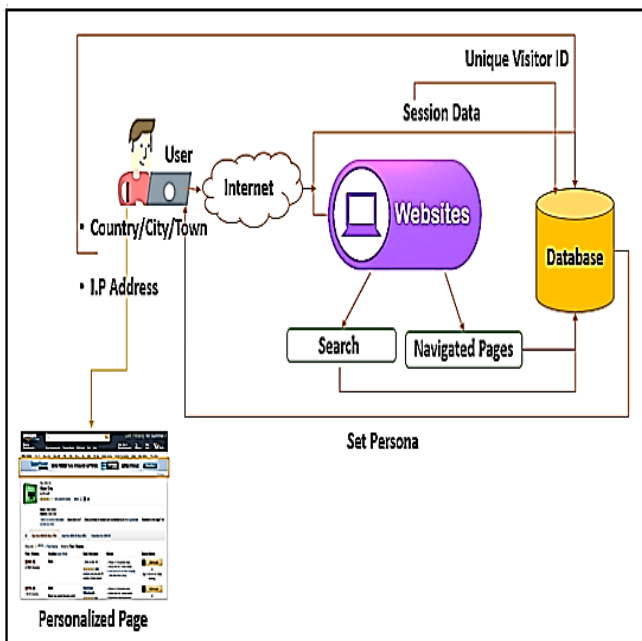

Fig 8. Promotional, Non-Transactional Transaction Based Website Personalization

For transaction website, companies have much information to personalize visitor from landing page based on their previous purchase, account personal information, navigational information, items added in the cart but not purchased etc. as shown in the figure below.

Fig 9. E-commerce Transaction Based Website Personalization

Some examples are

Use Email ID	You can send promotional offers
Date of Birth	You can do the segmentation and Personalization based on age group
Phone No	You can text promotional offer on products they purchased most
Address	You can send regular offer updated at door to door
Pin Code	You can send offer details of that particular areas
Purchase history	You can use BI & Analytics to define strong strategy
Purchase history	You can send different offers to differ customers based on their previous purchase

VI.   CONCLUSION AND FUTURE SCOPE

Technology is the backbone of each sector. Hence, all e-business organizations also need to adopt some small or large scale tools to design persona of customers. I have personally tested personalization using adobe AEM and marketing cloud components for Incredible India Campaign Website, Government of India (https://incredibleindia.org) and found, there have been endless opportunities in the personalization segmentation to identify multiple ways to personalize front landing page of the website. It is the necessity for all e-business organizations, to increase business transactions and revenue, retain and increase customer count, and to define strong strategic decisions for sustainable growth of e-business. Apart from session and profile data and previous

transactions, we can reach to incomputable number of cutomer by running physical campaign, where we can collect personal data of interested customers. E-business organizations can run door to door surveys to spread awareness and benefits of e-commerce transactions from their website. Based on collected interest and probabilities, geneirc first time user landing page can be personalized. They can add one more section on landing page irrespective of the persona, to show the products selling out every seconds or milliseconds. One more section, such as "wish cart" can be added, where customers can add items which they wanted to purchase but did not purchased due to cost constraints. Organizations can collect that data, and release the discount offer in inbox of customers, based on segmentation of products. It's a wide open area for researchers to explore and identify more ways to create the persona of customer, for promotional as well as e-commerce websites.

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Author Profile

Dr. Mukesh Negi is an Oracle, IBM, ITIL & Prince2 Certified Engineer with 16+ years of rich experience in multiple Advance and Emerging IT Technologies such as DBMS & Big Data, Cloud Computing, Virtualization, Internet of Things, Artificial Intelligence, Machine Learning, Business Intelligence & Analytics, IT Security etc. He is currently working at TechMahindra Ltd (Part of Mahindra & Mahindra Group), an Indian multinational provider of Information Technology, Networking Technology solutions and Business Process Outsourcing to various industry verticals and horizontals as a Sr. Technical Delivery Manager. In the Education field, He is serving as an Editorial Board Member of many international journals. He has conducted several Faculty Development Programs and serving as a Guest & Visiting Faculty in many reputed University and Colleges in India.